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Observations on Mycenaean Vase-Painters*

J. L. BENSON

PLATES 101-109

This study is an outgrowth of a long-standing interest in Mycenaean pictorial representations from two points of view: first, in connection with the preparation of finds¹ from Kourion for publication; and second, in connection with larger problems of the relation of Mycenaean art to the art of the Geometric and Early Archaic periods of Greece.² It has been inspiring to observe, in the decade just past, the emergence of a new field of studies which became possible only after the pioneering achievements of Blegen, Wace, Furumark and others in determining the relative sequence of Mycenaean ceramic development. This new field of studies is, of course, the detection of the personalities of individual artists among the welter of pictorial style vases now available to scholars in the museums of the world.³ It involves, in effect, the extension to the prehistoric era of a technique which has become entirely accepted as a tool to examine the historic period—and rightly so, there, since the historic period saw the first full flowering of individual consciousness.⁴ If by the same token one may justly designate the earlier era as a kind of pre-individual age, then the question arises as to how valid such

an extension of technique really is. This must be answered on the basis of results obtained, and these seem to me to be sufficient to validate the procedure and to suggest a slightly different characterization of the "pre-individual" age. It is not that the Mycenaean artist has no individuality but, evidently, that his discovery of it remains at an elementary stage; and so he follows his bent quite naïvely or ingenuously but feels no embarrassment in presenting the purely conventional and typical for its own sake.⁵ Thus, whereas some motifs, such as horse-drawn chariots, tend to be done in a set pattern, other motifs such as birds and bulls show an astonishing variety of conception within the formal terms of Mycenaean structure. And the situation is further enlivened by the struggle between naturalistic and ornamental tendencies which is still observable in the LH III B period when most of the works to be considered originated. All of these tendencies, as reflected in the humble artistic products of the potters' quarter, cast long shadows in the rise of Greek ceramic painting of the historic period; undoubtedly part of the fascination of dealing with these artisans is that they are the harbingers of an artistic develop-

* The photographs for pl. 101, figs. 1-3, and pl. 102, figs. 7, 10, 11, were kindly lent by Mrs. Sara Immerwahr; those for pl. 107, fig. 32, and pl. 108, fig. 37, with equal generosity by Prof. A. Åkerström. Pl. 103, figs. 12, 13, 15, 16, and pl. 105, fig. 23, are by courtesy of the Cyprus Museum, Nicosia, which also allowed publication of pl. 105, figs. 24-25. From the photographic collection of the late J. F. Daniel are the following: pl. 101, fig. 4; pl. 103, fig. 14; pl. 104, fig. 20; pl. 107, figs. 34-35; pl. 108, figs. 38-40; pl. 109, figs. 42-44. Other photographs are by Linda Benson unless taken from publications, in which case acknowledgement is made in the text or the notes. All bird drawings are my own. I owe the tracing in pl. 107, fig. 36, to the kindness of Mr. Nicolas Coldstream.

¹ Excavated by the late J. F. Daniel in the Late Cypriot settlement of Bamboula which will be published as a University Museum Monography; see also "Mycenaean Pictorial Fragments from Kourion" in *AJA* 65 (1961) 53ff and "Coarse Ware Stirrup Jars of the Aegean" in *Berytus* (forthcoming).

² The first of a number of projected studies on this subject is "A Problem in Cretan Orientalizing Birds" in *JNES* 20 (1961) 73-84.

³ Only a decade and a half before the appearance of Stubbings' paper (see below), C. F. A. Schaeffer had broached the question of recognizing individual Mycenaean painters and reached the conclusion that it could not be done (*BSA* 37

[1936/37] 230ff). He nevertheless saw possibilities of recognizing workshop groups, which he thought would have great value. J. F. Daniel was thinking about painters (e.g., Protome A and Bamboula discussed below) some years before Stubbings' paper but never published anything on the subject. It is of interest that W. A. Heurtley studied Palestinian vase-painting from this point of view in the later 1930's: "A Palestinian Vase-Painter of the Sixteenth Century, B.C." in *QDAP* 8 (1938) 21ff and esp. p. 24 for criteria in detecting his painter. I am aware, of course, that opportunities for study of Mycenaean painters will be increased by a forthcoming book on Mycenaean pictorial pottery by V. Karageorghis.

⁴ In the sense, for example, in which this concept has been worked out by T. B. L. Webster, *Greek Art and Literature* (London 1959) 24ff.

⁵ Such a characterization applies in a certain sense also to Early Archaic vase-painters, but the factor of ever-increasing consciousness of the total physical environment is really the determining factor there. Still, it is of great importance that in the Late Bronze Age small-scale artisans such as pot-painters reached the stage of expressing themselves volubly with animal and human representations—a quite different phenomenon from the occasional geometrized representations (usually of animals) on earlier Near Eastern pottery.

ment which ultimately culminated in such works as those of Exekias and the Kleophrades Painter, to name only two of the masters.

Even a brief experience with the problems of assigning Mycenaean vases to a given hand should suffice to convince the observer that the same principles of connoisseurship used for later periods apply here also and under the proper scrutiny yield valid results. Moreover, the very combination of the tendency to purely conventional draughtsmanship and composition, on the one hand, with on the other the wide and often naïve variations in the repertoire of certain motifs makes it easier, in my opinion, to be certain that one is dealing with a specific painter rather than with a workshop. Thus, in the case of the Long-beak Painter (see below) one may assume with considerable assurance that the works listed are the private variations on a favorite theme by a single artist, since the sheer range of bird representations is too great to suppose that apprentices could or did follow the pattern of one master as closely as would be the case with these specimens.⁶ One may indeed speak of "wildcat" variations in the representation of certain motifs (although there seems to be consistency within the work of any given painter) as opposed to strong standardization in others. This same situation seems to prevail again in Early Archaic vase-painting which, however, ultimately became the basis for a quite unified artistic vocabulary.⁷

After these introductory remarks, it will not be surprising to learn that the purpose of the present paper is not so much to present new material as to take stock of the work already done, much of which represents the refining of observations and conclu-

sions through the minds of several scholars in succession (e.g., especially in the case of the Protome Painter A), and to offer the suggestions of a sympathetic observer to those who have first ploughed ground. Thus, I shall list what I consider to be the works of various painters already known (in chronological order where this seems practicable rather than by shapes) plus those of a few whom I have recognized. Following the lists,⁸ I discuss when appropriate (and it usually is) the history and the validity of the attributions. There is no obvious scheme for the organization of such a paper. Of the thirteen painters discussed, probably three were active in the LH III A period (Bamboula Painter, Painter of C 372 and Pierides Painter B), three in the LH III C period (Rosette Painter, Tiryns Chariot Painter and Stele Painter) and the remainder during the LH III B period. However, a chronological grouping would separate some painters who belong closely together. I have chosen therefore to group them roughly according to their tendency to specialize in bull representations (lists 1-5) or in bird representations (lists 6-8) or, finally, in human representations (lists 9-13).

I. PROTOME PAINTER A

1. Stirrup jar C 514 from Klavdia, pl. 101, fig. 1. Walters, 102, figs. 179a and b; *CVA* BM Fs. 1, II C.b, pl. 3:17; *BSA* 46 (1951) pl. 18d; *AJA* 60 (1956) pl. 52, figs. 1-2.
2. Jug C 577 from Enkomi, pl. 101, figs. 2,4,6. *ExC* 34, fig. 62 whence Walters, 112, fig. 199; *CVA* BM Fs. 1, II C.b, pl. 12:16; *BSA* 46 (1951) pl. 18c; *AJA* 60 (1956) pl. 52, fig. 3.
3. Jug C 575 from Hala Sultan Tekké, pl. 101, fig.

Fs. 1. Kungl. Vitterhets Historie och Antikvitets Akademien (Stockholm 1924 and 1928).

MP

A. Furumark, *The Mycenaean Pottery. Analysis and Classification* (Stockholm 1941).

MPL

F. Stubbings, *Mycenaean Pottery from the Levant* (Cambridge 1951).

MV

A. Furtwängler and G. Loeschke, *Mykenische Vasen* (Berlin 1886).

Myrtou-Pigadhes

J. du Plat Taylor and others, *Myrtou-Pigadhes* (Oxford 1957).

OpusAth

Opuscula Atheniensia. Skrifter Utgivna av Svenska Institutet i Athen.

Tiryns

H. Schliemann, *Tiryns* (New York 1885).

Ugaritica II

C. F. A. Schaeffer, *Ugaritica II* (Paris 1949).

Wace, Myc.

A. J. B. Wace, *Mycenae* (Princeton 1949).

Walters

H. B. Walters, *Catalogue of the Greek and Etruscan Vases in the British Museum I*, Pt. 2: Cypriote, Italian and Etruscan Pottery (London 1912).

⁶ This may be contrasted with the case of Philistine bird representations where one might weigh the possibility of a workshop type rather than attribute all representations to a single master. Cf. *JNES* 20 (1961) 82.

⁷ It is true, of course, that the direction of the development is reversed in these instances: the Mycenaean abstracted a relatively naturalistic heritage whereas the early historical Greek worked his way in general from geometricized representations to freer, more realistic ones. But at a given point these phenomena have considerable similarities. For another comment in this direction, see V. Karageorghis, "A Mycenaean Horse-riding," *Bulletin van de . . . Antieke Beschaving* 33 (1958) 41ff.

⁸ The following abbreviations have been used in citing bibliography:

ExC A. S. Murray, A. H. Smith and H. B. Walters, *Excavations in Cyprus* (London 1900).
FMM G. Rodenwaldt, *Der Fries des Megarons von Mykenai* (Halle 1921).
Hall, CBA H. Hall, *The Civilisation of Greece in the Bronze Age* (London 1928).
Montelius O. Montelius, *La Grèce Préclassique I, II,*

- 3; pl. 102, fig. 7. Walters, 112, fig. 198; *CVA* BM Fs. 1, II C.b, pl. 4:14; *MPL* pl. 13:10; *AJA* 60 (1956) pl. 54, figs. 10-11.
4. Jug C 576 from Hala Sultan Tekké, pl. 102, fig. 10. *CVA* BM Fs. 1, II C.b, pl. 4:18; *MPL* pl. 13:9; *AJA* 60 (1956) pl. 54, fig. 12.
5. Krater called "Gjerstad krater," Cyprus Museum. E. Gjerstad, *Studies on Prehistoric Cyprus* (Uppsala 1926) 213, No. 1; *AJA* 60 (1956) pl. 53, figs. 6-7.
6. Bowl C 623 from Klavdia, pl. 102, fig. 11. Walters, pl. 3; *CVA* BM Fs. 1, II C.b, pl. 4:27; *BSA* 46 (1951) pl. 18b; *AJA* 60 (1956) pl. 53, figs. 8-9.
7. Krater fragment from Enkomi, *BCH* 83 (1959) 350, fig. 15 *bis* whence our pl. 102, fig. 8.

This painter was first recognized (in print) by F. Stubbings, but the name "Protome Painter" coined by J. F. Daniel was introduced by Mrs. Sara Immerwahr. The latter combined two stylistic groups set forth by Stubbings, but two important components of her list, C 402 and Pierides No. 234, have been deleted by V. Karageorghis who also added No. 7. Moreover, Karageorghis has modified the painter's name to Protome Painter A in order to distinguish his work from that of an imitator, Protome Painter B (see *infra*). The relative chronology of works suggested by Mrs. Immerwahr is Nos. 1-2 as early, C 402 and Pierides No. 234 as middle period, No. 5 as transitional to late, and Nos. 3, 4 and 6 as late. The relative chronology preferred by Karageorghis appears to be Nos. 6 and 5 as earlier, followed by Nos. 3 and 4 as later.⁹ There is no relative placement for Nos. 1-2 which he considers doubtful attributions.¹⁰

In the present list of Protome Painter A's works the deletions made by Karageorghis have been upheld on the ground that these pieces offer no convincing iconographical links with the assured attributions. Pierides No. 234 can actually be attributed to another painter (list 4 *infra*), and C 402 is better at home in the circle of the painter designated below as Pierides Painter A. One may notice especially the striking difference in the bird type of C 402 (pl. 101, fig. 5) and that of C 577 (pl. 101, fig. 6). But above all, the Protome Painter

A uses throughout an essentially heavy stroke to spread his figures broadly and loosely over the surface, whereas the Painter of C 402 binds his figures closely to the surface with a more subdued line and more intricate curves. His line is tightly controlled and subtle, not loose and flowing. This observation can be tested not only on the bulls' bodies and especially horns, but also on the birds. The Painter of C 402 literally models their volume with constrictive lines, and one can feel the tautness in the long sharp tails drawn out like stingers. This creates a certain static plasticity contrasting with the loose flow of movement in the Protome A Painter's bird. The latter, marred by rather confused decoration on the body, still recalls the traditional naturalism of Minoan and Egyptian birds.

With these corrections made, the remaining attributions suggested by Mrs. Immerwahr can be accepted, and largely in the order she specified. A hitherto unpublished photograph made by Daniel (pl. 101, fig. 4) shows clearly the identity in detail between Nos. 1 and 2, even to the trait of not quite closing the inner stroke of the bull's head with the outer contour and the "inverted apostrophe" used to indicate the nostrils. Furthermore, the treatment of the interlocked horns links No. 1 to Nos. 3-4. In the case of all details one can see a transmutation in the sense of ornamentalization. Obviously some accumulation of experience in working technique separates Nos. 1-2 from Nos. 3-4 and it is with the latter that Nos. 5-6 have their indisputable similarity. Likewise, No. 7 belongs in this later context. Mrs. Immerwahr¹¹ has rightly stressed the mainland character of the work of this artist; however, by including C 402 among his works, she has been led to overestimate his artistic status. The rather inept body decoration of the bird on No. 2 (pl. 101, fig. 4) in his early phase and the ungainly distortions of the protomes on the Gjerstad krater reveal him as a man of no consistent inspiration.¹² However, his drawing always has masculine force. His best work is obviously No. 1; his later work is sometimes rather effective as design and one will not deny him a sure hand with bull outlines, but some qualification as to his achievement, if not his potential talent, is necessary.

mainland Greece and have been imitated there as well as in Cyprus. Obviously, the shape is not an argument that the painter lived in the Levant.

¹² Karageorghis in *AJA* 60 (1956) 147 speaks of "clumsiness in the drawing of the body."

⁹ *BSA* 52 (1957) 40.

¹⁰ *AJA* 60 (1956) 147.

¹¹ According to the explanation of Karageorghis in *Syria* 34 (1957) 83, the prototype for the jug shape preferred by the Protome Painter A is a hypothetical bronze shape (of vaguely Levantine precedents). Such a shape could have traveled to

2. PROTOME PAINTER B

1. Chalice (R. S. Sikes) in the British Museum. Provenance unknown. *MPL* 87, n.2; *BSA* 52 (1957) pl. 8a whence our pl. 102, fig. 9.
2. Bowl C 672 from Klavdia. Walters, pl. 3; *CVA* BM Fs. I, II C.b, pl. 5:13; *MPL* pl. 12:2.
3. Bowl from Minet el-Beida. *Syria* 14 (1933) 105, fig. 8 and pl. 10; *Ugaritica* II, pl. 29, lower left; *MPL* pl. 16:1.

This painter was referred to in connection with Nos. 2-3 by Mrs. Immerwahr¹³ as "a rather untalented imitator" of Protome Painter A working in the Levant. Karageorghis, in publishing No. 1, defended the artistic merit of the painter by pointing out the change in artistic attitudes between the middle of the thirteenth century B.C. and the third quarter of that century, to which he assigned the chalice. It must be admitted that the latter piece permits of a slightly more appreciative attitude toward the artist than his other works, but the superiority of Protome Painter A is not in doubt. The decisive importance of this piece is that it seems to underline the location in the Levant of an atelier producing bowls and the unusual chalice form in Mycenaean ware of standard technique. There has indeed always been general agreement on some production in the Levant.¹⁴ By the same token, it is clear that the known work of this atelier is from the second half of the thirteenth century when conditions were beginning to be disturbed in the Aegean, and this may have to be taken into account in interpreting the existence and significance of the atelier. Moreover, neither the work of the Protome Painter B nor the decoration of other bowls of the type of Nos. 2-3 requires the assumption of an elaborate Mycenaean ceramic industry in the Levant;¹⁵ this painter may, in fact, have supervised Levantine artists in the (usually) monotonous decoration of specimens of this class.

3. ENKOMI BULL PAINTER

1. Krater, Pierides No. 42, Cyprus Museum. Pl. 103, fig. 13. *AJA* 60 (1956) pl. 56, figs. 1-2.
2. Krater C 416 from Enkomi. *Exc* 48, fig. 74 whence Walters, 86, fig. 147; Hall, *CBA* 213,

fig. 276; *CVA* BM Fs. I, II C.b, pl. 10:7; A. Lane, *Greek Pottery* (London 1948) pl. 2b; H. Read, *Icon and Idea* (London 1955) pl. 10a; *AJA* 60 (1956) pl. 56, figs. 3-4; *Archaeology* 13 (1960) 10, fig. 11.

3. Jug C 583 from Enkomi, pl. 104, fig. 18. *Exc* 42, fig. 70 whence Walters, 113, fig. 203; *CVA* BM Fs. I, II C.b, pl. 6:3; *AJA* 60 (1956) pl. 55, fig. 15.

Nos. 1-2 were put together by Karageorghis who added No. 3 as "probably" by the same painter. In her article appearing at the same time Mrs. Immerwahr gave her approval to Stubbings' association of C 583 with C 409. Although such an association is not unreasonable, the elongated shape of the bird on C 583 (pl. 104, fig. 18) agrees better with the shape of the birds of Nos. 1-2, as does also the silhouette neck: only the curious "electric light bulb" appended to the tail on Nos. 1-2 is lacking to make the resemblance complete. I call attention also to the Cyprus Museum krater A 1647, illustrated in *MPL* pl. 11:2 and on our pl. 103, fig. 15, as being quite similar to Nos. 1-2 in the following ways: the tripartite division of the bulls' bodies flaring downward; the prominent use of dotted circles for an embroidery effect; the rendering of the eyes by concentric circles; the careful naturalistic rendering of the bulls' hooves (almost identical except that they are not silhouetted on A 1647); the obvious care of the painter of A 1647 to keep the feet on the ground level (only on the front feet of the right bull is there a slight overlapping with the encircling band below); the rendering of a single ear behind two curved horns; the small circle terminating the snout of the bulls (this is anticipated on the bull of No. 1, side a); similar tails; and finally, the careful rhythmic swing of the contours. In regard to this last remark, it must be admitted that the whole conception of A 1647 is somewhat more formal and rigid than that of the others (notice the single filling ornament above and below each bull balancing the symmetrical flower patterns of the centerpiece). This difference makes the question of attribution premature at this stage particularly since the bulls of A 1647 show also a strong resemblance in many

¹³ *AJA* 60 (1956) 140.

¹⁴ Cf. *AJA* 46 (1942) 289; *Archaeology* 13 (1960) 12 and my own remarks in the forthcoming publication of Bamboula.

¹⁵ The evidence for the early manufacture of a bowl in Mycenaean technique and Base Ring I shape presented by Furu-

mark in *OpusArch* 6 (1950) 265ff is not convincing for, even if the shape is derived from Base Ring I prototypes, which is not in any way certain, the adaptation could have been made at any time. The associated finds have little evidential value since the tomb was not scientifically excavated.

respects to those of the Pierides Painter A, as the juxtaposition of figs. 15 and 16 (the latter is a reversed photograph) of our pl. 103 shows. The krater C 404¹⁶ could possibly be the work of a less gifted admirer or pupil of the Enkomi Bull Painter. Very closely related to C 404 is a jug found in Argos.¹⁷ This jug is so integrally a part of the Mycenaean bull representations as known from the kraters, that it must be thought of as originating in the same ateliers as the others. Presumably those who accept Cyprus as the location of these ateliers would consider the Argos jug as an export to Greece.¹⁸

4. BULL-LEAP PAINTER

1. Krater, Pierides No. 234, Cyprus Museum. Pl. 103, fig. 12. *AJA* 60 (1956) pl. 56, figs. 5a and b; pl. 57, figs. 6a and b.
2. Krater fragments, Cyprus Museum A 2026. *AJA* 60 (1956) pl. 57, figs. 7a and b.

Karageorghis removed No. 1 from the association with C 402 (which Mrs. Immerwahr made) and has connected it with No. 2. The almond eye, shape of head, handling of ears, rendering of horns as continuation of head contour, and type of tail are similar features on both pots and make the ascription valid, but the large bold markings on the bull's body of No. 2 rather take one by surprise in view of the careful and trim style of No. 1. Routine may have made the Bull-leap Painter's drawing looser; in any case the principal scene of No. 1 from which he takes his name shows him to have been ambitious. One wonders from what prototype he could have had his inspiration if it is supposed he was painting in Cyprus. This is hardly the sort of scene which would be transmitted on textiles, though perhaps a seal could have served the purpose.¹⁹ I cannot agree that the second animal must be interpreted as a calf. It seems to me quite possible that the artist had not enough space left to draw another bull of the same length as the first one and therefore drew a shorter one.

¹⁶ The best illustrations are *ExC* 49, fig. 76:1262 and *MP* 244, fig. 27:11.

¹⁷ *FA* 10 (1955) 135, fig. 32.

¹⁸ For a recent discussion of pictorial style vases found in Greece, see S. Immerwahr, "Mycenaean Trade and Colonization" in *Archaeology* 13 (1960) 10ff. Add a fragment from Sphettos in Attica: *ArchEph* (1895) pl. 10:12 (whence Montelius, I, pl. 112:5). I do not know whether the sherd No. 233 in *Die Antiken Vasen von der Akropolis zu Athen* I (Berlin 1925) by B. Graef and E. Langlotz (whence Montelius, I,

5. PIERIDES PAINTER A

1. Jug, Pierides No. 34, Cyprus Museum. Pl. 103, fig. 16 (reversed). *Syria* 34 (1957) 82, fig. 1; 83, figs. 2-3.
2. Krater C 399 from Larnaca. *CVA BM* Fs. 1, II C.b, pl. 6:16; *Syria* 34 (1957) 85, figs. 4-5; 86, fig. 6.

We have to do here with one of those painters who most successfully achieved the ornamental stage without, however, succumbing to confusion between representation and ornament (as Karageorghis has pointed out). I should like to stress that this painter and the painter of C 402 (illustrated in our pl. 103, fig. 14) must certainly have sat opposite each other in an atelier, for both terminate the bull's muzzle with a circle, both use concentric almond eyes, both show the ears frontally between the horns and both use lozenges with arcs in their corners as filling ornaments. Also they both occasionally outline such a lozenge. Nevertheless, there seems to be a distinct difference in personal style. Likewise, it may be worth considering whether, on the basis of bird types, a fragment from Berbati (pl. 104, fig. 19)²⁰ may not show the influence of the painter of C 402. The latter experiments with two not exactly usual types of birds, viz., one with reverted head (pl. 104, fig. 21),²¹ another with the head retired to the center of the back (pl. 101, fig. 5);²² both have hooked beaks. The Berbati fragment looks like a later, more ornamental synthesis of the two types. From the published drawing it would appear that the artist who produced it obtained more mechanically precise effects than the painter of C 402, whose line still has an organic pliancy.

6. THE PAINTER OF C 372

1. Krater C 372 from Enkomi, pl. 104, fig. 17. *ExC* 48, fig. 73 whence Walters, 75, fig. 120; *CVA BM* Fs. 1, II C.b, pl. 9:4; *MPL*, pl. 7:2.
2. Krater from Mycenae. *Praktika* (1950) 220, fig. 25.

pl. 107:10) belongs in this category or not.

¹⁹ E.g., A. Evans, *The Palace of Minos* I (London 1921) 686, fig. 504, and note an actual instance of the Aegean tauro-machy occurring on an Oriental seal: *Syria* 32 (1955) 34.

²⁰ *Arkeologiska Forskningar och Fynd* (Stockholm 1952) 44, fig. 11 whence the illustration in this article.

²¹ For a listing and discussion of this type, see *JNES* 20 (1961) 76, 82.

²² *MP* 253, fig. 30:13, 16.

This painter was recognized by Karageorghis.²³ In addition to the birds of very similar type mentioned by him, one might take into account those on a krater in New York.²⁴ Perhaps some of these comparanda are also by the Painter of C 372, but there can be no certainty from illustrations presently available.

7. ROSETTE PAINTER

1. Bowl fragments from Korakou, Corinth Museum. *AJA* 42 (1938) pl. 25:3; *JNES* 20 (1961) pl. vi, fig. 1. See p. 79, n. 1.
2. Bowl fragment from Mycenae, Athens NM inv. 2685, pl. 104, fig. 20. *JNES* 20 (1961) pl. vi, fig. 2. Probably by the Rosette Painter:
3. Bowl from Mycenae. *BSA* 25 (1921-23) 107, fig. 25c; discussed p. 92; Wace, *Myc.* fig. 82d.
4. Bowl from Mycenae. *BSA* 25 (1921-23) 41 and pl. 7a.
5. Bowl fragment from Mycenae. *MV* pl. 36:362.
6. Hydria from Mycenae, Athens NM. *MV* pl. 37: 380; *BSA* 25 (1921-23) 46 and pl. 9b; Hall, *CBA* 237, fig. 315; Montelius, Pt. 2 Fs. 1, pl. 132:9; *AJA* 42 (1938) pl. 25:4.
7. Stirrup jar from Mycenae. *MV* pl. 38:393; Montelius, Pt. 2 Fs. 1, pl. 132:11.

I attributed Nos. 1-2 to one hand in *JNES*. Delight in the motif of the outlined solid rosette, which is given a prominent place in the compositional scheme, is the most striking characteristic of this artist. All the pieces listed (except No. 5, which is inextricably tied to Nos. 3-4) have this motif as common denominator, while the manner of portraying it, the frequency and similarity of the bird with raised wing as a decorative element, the inevitable use of pendent loop-triangles, the mannered precision of the whole decorative concept suggest that they are the work of a single man. However, it is perhaps better to reserve final judgment until a closer comparison can be made of these with other fragments and pots such as those from Mycenae illustrated in *MV*, pls. 36 and 37, from Korakou, Asine, and even Delphi, which are very close in general effect to the pieces already cited. If the suggested attributions prove valid, then the Rosette Painter will emerge as one of the leading lights of the so-called Close Style of ceramic painting. For an appreciation of the artistic merit of this style by Furumark, see *MP* 572ff.

²³ *AJA* 64 (1960) 280.

8. LONG-BEAK PAINTER

1. Krater fragment from Enkomi (?), British Museum 1938.11.20.1. Pl. 106, fig. 27. The following information about this piece (and also what appears in the following entry) has very kindly been provided by P. E. Corbett. "Diameter of rim, 0.263 m. Maximum diameter was below the level of the handles, and was about 0.285 m. Preserved height, 0.206. Rather more than half the rim has survived, with about half the wall, including one handle, and a segment of the lower body. Orange-brown clay; cream slip on the exterior; the glaze fired dark chestnut to orange-brown. A, two birds to right (there never can have been more than two). B, the head and part of the wing and back of a bird to right. The top of the rim and its outer edge glazed; the underside of the rim reserved, then a broad band of glaze above the picture and three evenly spaced broad bands below it; under them, after a wider interval, a fourth band."
2. Krater fragment from Enkomi (?), British Museum 1938.11.20.3. Pl. 106, fig. 26. "Estimated diameter of rim, 0.273 m. Maximum diameter was below the level of the handles, and was about 0.295 m. Preserved height, 0.195 m. About a third of the rim and wall have survived, with one handle. Light coffee-brown clay; cream slip; the glaze fired vandyk brown to beige. A, two birds to right (originally there were probably three). B, the tip of the wing of a bird to right. On either side of the handle, two vertical lines joined by oblique strokes. The top of the rim is glazed; the outer part of the underside of the rim is reserved; then there is a broad band of glaze. Beneath the birds are three evenly spaced bands of glaze; under them, after a wider interval, a fourth band."
3. Krater C 423 from Enkomi, pl. 106, fig. 28. *ExC* 45, fig. 71 whence Walters, 87, fig. 152; *Jdl* 26 (1911) 244; *CVA* BM Fs. 1, II C.b, pl. 8:3.
4. Krater from Enkomi O.T. 68, Cyprus Museum A 1760. Pl. 105, figs. 24, 25; pl. 106, fig. 31.
5. Krater C 422 from Enkomi, pl. 106, fig. 29. *ExC* 45, fig. 71 whence Walters, 87, fig. 151; *CVA* BM Fs. 1, II C.b, pl. 8:1.
6. Krater fragment from Enkomi, Cinquantenaire A 1251. *CVA* Brussels Fs. 3 II C, pl. 3:12.

²⁴ *AJA* 49 (1945) 535.

Possible attribution: *Myrtou-Pigadhes* 43 (Form 91). Drawing is too small and sketchy to allow certain judgment.

I have put together this group in an attempt to throw light on a vexed problem. Obviously, I cannot solve the problem but it may be possible to show that it is more complex than is usually supposed. Stubbings²⁵ challenged the hitherto accepted view of Furumark that the so-called "Rude Style" represents a "derivative Mycenaean ware" and proposed that it should not be separated from genuine Mycenaean fabrics. Mrs. Immerwahr decisively rejected the new proposal.²⁶ Karageorghis has not yet made his position clear but has indicated that he sees a connection between the Rude Style and ivory carving.²⁷ H. W. Catling has proposed the Late Cypriote II C period as the *floruit* of the class in question,²⁸ which makes it contemporary with Mycenaean III B and Levanto-Mycenaean wares in Cyprus.

The question, as I understand it, must hinge on whether the painters in the atelier(s) producing Rude Style vases were Cypriotes or transplanted Mycenaeans. It has already been suggested that the Protome Painter B seems to belong to this latter class and that he may have had the supervision of an atelier producing Levanto-Mycenaean bowls. However, his own work is explicable in terms of the (mainland) trend toward abstraction or ornamentalization. On the other hand, Mrs. Immerwahr has called the drawing of plants and animals in the Rude Style "at once more careless and yet more naturalistic." To test this characterization I propose to consider in detail only one aspect of the Rude Style, viz., the birds listed above which are so similar in technique and iconography that, it seems to me, they must be the expression of one individuality. They are conceived of in completely linear terms—a comment which would also apply to the birds of the Rosette Painter—and have as starting point a round head with long graceful beak, then a series of more or less horizontal parallel strokes

filling the breast, a double-curved wing, and a fan-tail which becomes progressively more sweeping but which is always introduced by a series of vertical strokes. The legs are thin. The artist has a tendency to pit interior vertical and horizontal filling lines against each other without denying the essentially curvilinear form of the bird body, which is, in fact, conceived of rather grandiosely as a series of sweeping curves firmly constructed and oriented. These features add up to the work of a distinctive personality, and imitations which miss his structural principle can easily be spotted.²⁹ He is a fairly competent artist and it would be a mistake to consider him in the same breath with the entirely different and bungling draughtsman who is the "negative" artist of Stubbings' Group IV. This latter artist stands outside the Aegean world, looking in. The Long-beak Painter, both in structure and use of linear ornamentation, stands within that world. His early works, Nos. 1-2, especially No. 1, have still a Mycenaean III B air, as does also to some extent No. 3. His apparently later works, Nos. 4-5, which show a deterioration of style, nevertheless move, both in effect and in technique—note especially the uneven brush stroke of No. 4 (pl. 106, fig. 31)—in the same direction taken by mainland painting. To illustrate this I show a close-up view of a well known Close Style cup in the Nauplia Museum (pl. 105, fig. 22) for comparison.³⁰ No. 6 is particularly interesting as a late work which nevertheless reverts to the horizontal-vertical partitioning of No. 2 and even intensifies this by introducing a vertical zone between the two birds, thus conforming to the panel style. Such close analogies to the normal Mycenaean style development cause me to regard the Long-beak Painter as a transplanted Aegean, possibly a Minoan rather than a Mycenaean, who reflects in his work in a somewhat distant milieu the transition from LH III B to LH III C. Furumark³¹ has already noticed that the parallels to his type of bird look closer to LM III than to mainland types. Our pl. 106, fig. 30 reproduces an example of an LM III bird-type³² with

lower group = MP 466, 12b and fig. 30:32. Further study of these will be needed to determine their relation to the Long-beak Painter.

²⁵ Inv. 2563. *BSA* 25 (1921/23) pl. 7b; Wace, *Myc.* fig. 82c.

²⁶ *MP* 466.

²⁷ Our pl. 106, fig. 30 is Herakleion 1587, "sack alabastron" from Kaluvion: *MA* 14 (1904) pl. 38; C. Zervos, *L'Art de la Crète* (Paris 1956) 447. Cf. also Herakleion 9501, pyxis from Pachyammos: *Kretika Chronika* 7 (1954) pl. 6.

²⁸ *BSA* 46 (1951) 173.

²⁹ *AJA* 60 (1956) 140, n.25.

³⁰ *OpusAth* 3 (1960) 146, n.7. Mrs. Immerwahr also proposed this connection in her (unpublished) dissertation.

³¹ *Myrtou-Pigadhes* 42ff.

³² Examples of this are the kraters Pierides No. 361, illustrated in our pl. 105, fig. 23, by courtesy of the Cyprus Museum, and from Enkomi SwT 13: E. Gjerstad, *Swedish Cyprus Expedition* (Stockholm 1934), pl. 85, upper row, center of

structural and typological similarities sufficiently striking to make such a connection plausible.

The foregoing analysis may suggest that, until all the painters active in the Rude Style have been considered individually, it is too early to discuss it as a total phenomenon.

9. BAMBOULA PAINTER

1. Kylix fragment B 1056 from Bamboula, Kouirion, pl. 109, fig. 44. *AJA* 65 (1961) pl. 29, fig. 6.
2. Krater fragment C 352 from Enkomi. *ExC* 49, fig. 75 whence Walters, 69, fig. 116 and our pl. 109, fig. 41. E. Mercklin, *Rennwagen in Griechenland I* (Leipzig 1909) 21, No. 51; *CVA BM Fs.* 1, II C.b, pl. 11:13; *BSA* 37 (1936-37) 229, fig. 28.
3. Krater from Ras Shamra. *BSA* 37 (1936-37) 213-15, figs. 1-3 whence our pl. 109, figs. 45-46; *Ugaritica* II, fig. 90:4 whence *AJA* 62 (1958) pl. 101, fig. 10.

Possible attribution: krater fragment from Enkomi, Cinquantenaire A1253. *CVA* Brussels Fs. 3, II C, pl. 3:11 (photograph too small to allow final judgment).

Nos. 1-3 were brought together by J. F. Daniel (not in print) and have accordingly been given a name which is closely associated with his work. Although his conception of a single personality rather than a group appears to have been tentative, the probability of one painter seems very strong to me. The connection of Nos. 1-2 is particularly strengthened if the long-legged bodies on B 1057 (pl. 109, figs. 42-43) are actually from the same pot as B 1056, for these bodies and the crossed lozenge appearing with them are very much like what appears on No. 1. In the circumstances I am now inclined to think that these fragments do belong to the same kylix, although, as I stated in *AJA* 65 (1961) 54, there is not absolute identity of clay. Appearance of clay and paint can, of course, vary considerably on two portions of a single pot.

The tensile and precise style of the Bamboula Painter offers a natural antecedent to the work of the Painter of the Shield-bearers. Indeed, from this point of view, the latter looks like a rather monumental and frozen version of the former (cf. especially the stance of the horses of No. 2 and of the Tiryns krater). Several iconographical correspond-

ences are worth noticing. Most striking is the particular type of locks of the mane, each terminating in a kind of reserved blade (cf. No. 3 with the Tiryns krater), while also the tendency to reserve the horse's foreleg below the knee on the same two pieces may be mentioned. This type of mane is not used consistently by the Bamboula Painter (cf. No. 2), but it is interesting to note that it bears closest similarity to a rather naturalistic type of representation which Furumark has specifically associated with the mainland.³³ If the similarities pointed out above are more than accidental, then it would hardly be possible to place the Bamboula Painter's *floruit* earlier than the late fourteenth or early thirteenth centuries;³⁴ also the case would be strengthened for a consistent mainland tradition of pictorially decorated vases which were exported to the Levant.

10. PAINTER OF THE SHIELD-BEARERS

1. Krater fragments from Tiryns, Athens NM 1511. Pl. 107, fig. 32. *OpusAth* I (1953) 10ff and n. 4 for older bibliography (to which add *MP*, 449 and *Critica d'Arte* 7 [1942] pl. 3, fig. 10) figs. 1-2; 3:2-3; *ArchEph* (1953-54 Part B) 102, fig. 2.
2. Krater fragment from Mycenae, Athens NM 2677-87f. Pl. 107, fig. 34. *OpusAth* I (1953) 13, fig. 3:1 (discussed p. 14).
3. Krater fragment from Mycenae (?), Nauplia Museum 1537 (group no.). Pl. 107, fig. 33. *ArchEph* (1953-54 Part B) 101, fig. 1a-b.
4. Krater fragment from Mycenae, Athens NM 2677-87b. Pl. 107, fig. 35. *OpusAth* I (1953) 23, fig. 9:1.
5. Krater C 409 from Enkomi, pl. 107, fig. 36; pl. 108, fig. 37. *ExC* 49, fig. 76 whence Walters, 84, fig. 142; *CVA BM Fs.* 1, II C.b, pl. 9:10; *AJA* 60 (1956) pl. 54, figs. 13-14.
6. Fragment of unspecified shape from Mycenae. H. Schliemann, *Mycenae and Tiryns* (New York 1878) pl. 8:33; *AJA* 60 (1956) 141.

Probable attribution: krater fragment from Mycenae, Athens NM. *AJA* 60 (1956) pl. 55, fig. 17, lower center.

Nos. 1-2 were put together by A. Åkerström while almost simultaneously Nos. 1 and 3 were being combined by S. Charitonides, who proposed the name of the painter adopted here. These attribu-

³³ *MP* 243, Mot. 2:7.

³⁴ Cf. *AJA* 62 (1958) 384.

tions are indisputable. Both scholars, Charitonides in more detail, discussed various related pieces which they were willing to assign to the same workshop but not to the same painter. I agree with Charitonides in every case; however, No. 4, which Åkerström assigned to the "inner circle" of the painter can, I believe, be shown to be actually by his hand. This in turn carries with it No. 5, and No. 5 carries with it No. 6. Mrs. Immerwahr had already seen the close relationship between Nos. 5-6. Since the attributions made here have an important implication, it is incumbent on me to support them by a detailed analysis which, owing to the small areas preserved, must at first be rather indirect. The formal link between No. 4 and No. 1 is the use of white dotted eyes around a dark pupil in combination with dotted reserved muzzles of quadrupeds (stag and horse, cf. also dog) which have vertical white neck bands. The comparison between Nos. 4-5 is rendered easier by the fact that in both cases the reverted head of a stag is represented. The custom of the painter to vary between representations with and without added white is already decisively guaranteed by Nos. 1 and 3, so that this discrepancy need not detain us. The shape of the head is basically the same, with the most striking feature being the tendency to make the lower jaw bulge down just below the eye preparatory to jutting out in a long slender thrust. The upper line of the muzzle is concave. The horns are rendered basically as antithetical, double-curved antennae springing directly from the eye but not quite touching each other. On the stags of C 409 the artist has generally elaborated the horns slightly with subsidiary branches which give a slightly more realistic effect. In one case, however, (pl. 107, fig. 36) he has exactly preserved the scheme of No. 4. The conception of the two representations agrees as far as possible in view of the different techniques, viz., the muzzles are reserved, the eyes are a dotted circle, and the white neck lines of the Athens sherd are rendered by black lines giving a reserved effect. Insofar as preserved, the last Athens fragment in the list agrees with the characteristics just described but it is perhaps too small to allow absolute certainty in the attribution.

Having gained this much, we may now proceed to a comparison of the two most completely preserved examples of the list, Nos. 1 and 5. The shape of the two kraters and the system of bands on each appear to be identical, that is, one above and three

below the frieze, all of the same width. The artist is prone to overlap these bands, both above (notice the center stag whose antlers become confused with the band) and particularly below. He provides his quadrupeds with essentially rectangular bodies which are nevertheless modified and harmonized by a slow curving of the angles. The necks are pointedly separated from the bodies by a horizontal terminating line above which other horizontal lines ascend following the steady curvature of the neck. The bodies are held compactly together by vertical wavy lines and again the legs are sharply set off from the trunk: in the case of No. 1, by horizontal lines, in the case of No. 5, by solid color. The shape of the forelegs, well set apart and breaking at the knees at a slight angle is identical, and they have the same raking axes and end in the same kind of point(?) well below the second (or even the third?) band. Furthermore, the area below the knees of the foreleg is reserved in both cases, while the back legs of the stag are solid and very thin, and the back legs of the horse are dotted, as one might expect. So much for the comparable figures. It may be noted that there is a renunciation of filling ornament on both kraters. In general, the chief personal ingredient of the artist's style is a love of slow, stately, decorous curves, evidenced on the Tiryns piece in the double spirals above the reins and the spirals of the dogs' tails, on the Enkomi piece in the reverted necks of both the stags and the birds, and the stately, swelling, almost symmetrical curves of the birds' bodies. Combined with an exceedingly sure line is a painstaking sense for detail. There is in the style of this painter restraint and dignity, almost gravity, and one may, without prejudice to the different form worlds involved, see in his work the lineal ancestor of the balanced, reasoned compositions of Attic Geometric vases. He has elaborated his chariot scene with a sense of festive significance. This carries over even into the slighter and more routinely handled stag krater, where not quite so much effort has been expended on details. The seemingly extravagant praise which Charitonides has heaped upon this painter appears on reflection to have some justification. It is not, I suppose, impossible that he was perhaps a minor member of the school of muralists who decorated the palace at Tiryns; certainly the memory of the Stag Hunt fresco is vividly in his mind, and the complete scene of which No. 4 is a part might have yielded more impressive compositional similarities to greater

painting than No. 5 for it is obviously executed in a more festive spirit than No. 5.³⁵ Nevertheless, the many pieces which can be grouped around his work as related indicate that his principal activity must have been in the contemporary kerameikos of Tiryns-Mycenae. Both Åkerström and Charitonides have thought of him as working on the Greek mainland and I find this much easier to assume than that he worked in Cyprus (where No. 5 was found) and exported his other works to the Greek mainland. The implications of this may be far-reaching for our understanding of the development of the pictorial style in the LH III B period.

11. TIRYNS CHARIOT PAINTER

1. Krater fragment from Tiryns, Athens NM 1509. Pl. 108, fig. 38. *Tiryns*, pl. 15a-c.
2. Krater fragment from Tiryns, Athens NM. *Tiryns*, pl. 17b.
3. Krater fragment from Tiryns, Athens NM 1511. *Tiryns*, pl. 21b.

Charitonides put together Nos. 1-2.³⁶ It is stated by Schliemann that the fragments (listed under No. 1) on pl. 15 are from two different kraters. Obviously neither Charitonides nor Furumark³⁷ realized that *Tiryns*, pl. 15a joins *Tiryns*, pl. 17b, as the photograph made by Daniel and published in our pl. 108, fig. 38 shows. No. 3 may be added to this complex with considerable assurance. *Tiryns*, pl. 21a is also very much like the other fragments above in style, and it may well be possible that all the fragments so far listed and mentioned actually come from one and the same krater; even so, it is useful for this artist to have a name. Furumark classes these fragments with a series assigned in general to "the early phase of III C:1." The use of white dots, choice and festive handling of theme, iconographical details like the shape of the locks of the mane suggest contact of the Tiryns Chariot Painter with the Painter of the Shield-bearers, perhaps as an apprentice.

³⁵ Actually the fragment Athens NM 1631: *Tiryns*, pl. 20c illustrated in our pl. 108, fig. 40 seems closer in type to the fresco stags than the work of the Painter of the Shield-bearers and makes clearer the rapport between free painting and vase-painting. On this latter subject, see FMM 25. It is worth emphasizing that figures on the larger kraters are almost the same size as some of the figures on the Tiryns frescoes.

12. STELE PAINTER

1. Fragment of painted stele from Mycenae, Athens NM. *ArchEph* (1896) 1ff and pl. 1; M. Swindler, *Ancient Painting* (New Haven 1929) fig. 170; A. Lorimer, *Homer and the Monuments* (London 1950) pl. 2:2.
2. Krater from Mycenae, Athens NM. *MV* pls. 42-43; M. Ohnefalsch Richter, *Kypros, The Bible and Homer* (London 1893) 63, fig. 74; Hall, *CBA* 262, fig. 338; Montelius, *Pt. 2 Fs.* 1, pl. 134; Swindler, *op.cit.*, fig. 193; H. Bossert, *Alt-kreta* (Berlin 1937) 23 with various older bibliography; Wace, *Myc.* pl. 82a and b; Lorimer, *op.cit.* pl. 3:1; F. Matz, *Kreta, Mykene, Troja* (Stuttgart 1958) pl. 109; S. Marinatos, *Kreta und das Mykenische Hellas* (Munich 1959) Nos. 232-233.

The attribution of these two works to a single artist, viz., a vase-painter, was made by G. Rodenwaldt³⁸ somewhat hesitantly, for he conceded that if they were not by the same artist they must at least be from the same atelier. This evaluation was accepted by Furumark.³⁹ Until more connecting links are found a slight (but only slight) reservation will always remain with regard to the attribution, owing to the different artistic media involved. In my opinion, the attribution is actually strengthened by the existence of the very similar sherd, Athens NM 4691 (pl. 108, fig. 39)⁴⁰ which bears to the other two figure representations the relationship of an imitative atelier product, and emphasizes the closeness of details on the stele and the Warrior Krater. Both Rodenwaldt and Furumark, in treating the Stele Painter, have emphasized the cleft between ceramic and fresco painting in the Argolis, and this distinction will necessarily be cogent on account of the quite different problems and possibilities of the two media. However, the question as to whether a single artist could span the gap between the two and express himself appropriately in either medium without confusing the laws of the two is quite a different matter (cf. my remarks on the Painter of the Shield-bearers).

³⁶ *ArchEph* (1953/54 Part B) 103.

³⁷ *MP* 450.

³⁸ *Tiryns II* (Athens 1912) 187.

³⁹ *MP* 451.

⁴⁰ *FMM* 24, fig. 14; also G. Snijder, *Kretische Kunst* (Berlin 1936) pl. 30:5 and Lorimer, *op.cit.*, pl. 12:1. Our pl. 108, fig. 39 is a previously unpublished photograph by Daniel.

13. PIERIDES PAINTER B

1. Krater, Pierides No. 35, Cyprus Museum. *Syria* 34 (1957) 89, figs. 10-11; 90, fig. 12.
2. Krater from Cyprus, Louvre AM 625. *BCH* 31 (1907) 231, figs. 8-9; *Syria* 34 (1957) 87, figs. 7-8; 88, fig. 9.

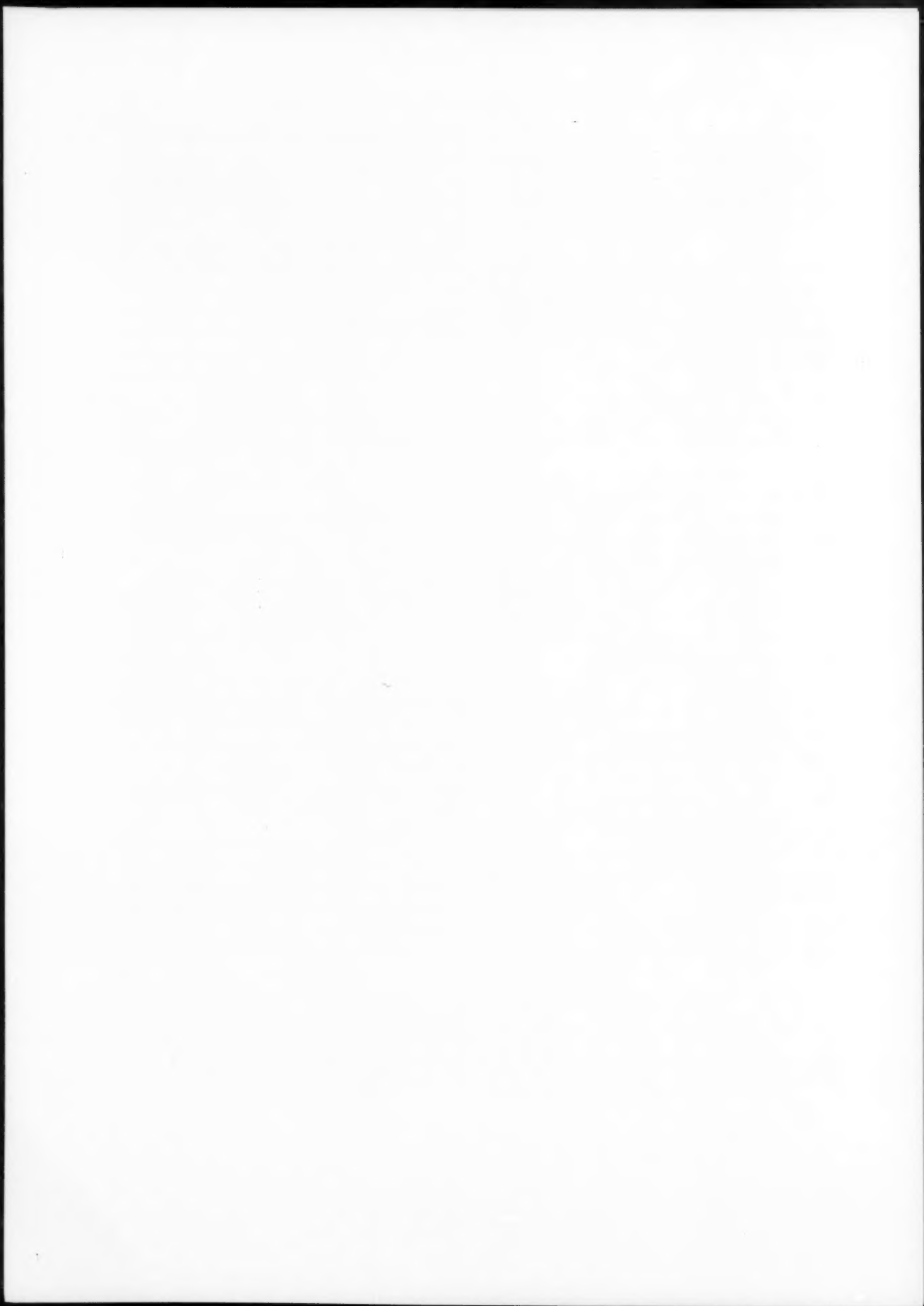
These kraters were put together by Karageorghis. In No. 2, birds are introduced into the composition in a purely ornamental way. A broad study of the role of birds in Mycenaean vases is needed, as con-

flicting interpretations have been brought forth.⁴¹

The foregoing study has more than served its purpose if it has seriously called attention both to the considerable possibilities of recognizing individual pot-painters of the Mycenaean world, and to the value of this process as a means of sharpening our focus on various kinds of problems connected with that world.

PRINCETON UNIVERSITY

⁴¹ Cf. *AJA* 60 (1956) 145.



The "AXON"

*Inscriptiones Graecae I² 2**

STERLING DOW

PLATES 110-113

PROVENIENCE. Seventy-five years ago S. A. Koumanoudes published eleven inscriptions found in the Greek Archaeological Society's then current excavation of the Roman Agora (*EphArch* [1885] 205-20). The eleven are a mixed group: none of the lot throws light on any other, except that the finding of grave monuments also in the excavations (206) would prove, if proof were needed, that some at least of the stones were brought in from outside. The subject of the present paper, his No. 10 (215-18), is a fragment small enough to be easily transported, and at least two kinds of plaster still adhering to its surface prove that it was re-used in post-Classical buildings. So far as circumstances of discovery are concerned, it can have come from anywhere in Athens, from the Akropolis or the Greek Agora or anywhere else.

PUBLICATIONS. Koumanoudes commented on its *παράδοξον σχῆμα*. Two inscribed faces, like the two sides of a wedge, slope toward each other. The end where the two sloping sides would meet was not sharp but blunted: a small surface was left flat and originally joined the two inscribed faces to each other. Koumanoudes recognized correctly that a little of this surface is preserved. The inscribed texts, which are on the two sloping sides, gave virtually no help, but from the shape of the fragment alone Koumanoudes reconstructed a scheme for the whole which needs alteration only, it seems, in details; and he conjectured that it represents, perhaps only as a copy (for the inscription is not boustrophedon), a Solonian *axon*.

This feature particularly of the treatment was

* The inscription has been studied at various times by E. Vanderpool, A. L. Boegehold, and R. S. Stroud; they have generously sent me their notes, and A. L. Boegehold has read the present article. In the summer of 1960, it was possible for me to clean the stone, and I studied it afresh, consulting the notes of my predecessors only subsequently. Except as indicated, the findings, restorations, and interpretations are my own, and I am solely responsible for the present article; but I am not aware of disagreement on any important aspect. For discussion

brilliant, but presumably because of the brevity of the text, the inscription attracted little attention. A. Kirchhoff (*IG I Suppl.* [1891] p. 125 no. 559) copied Koumanoudes' drawings without improvement, and praised the idea and form of the conjecture about its being an axon; but on the basis of the lettering he thought that the date should be brought down to the time of Ephialtes. U. v. Wilamowitz (*Aristoteles u. Athen* [1893] I 45 n. 7) asserted plausibly—but it was only a surmise—that if the inscription was set up as a stone equivalent of wood, it was *ein sehr unpraktischer archaismus*.

W. Bannier (*BPW* [1917] 1222-24) seems to have thought there were two fragments, somehow parts of a Solonian (he disregards Kirchhoff) *kyrhis*. He does not use the word *axon*; clearly he paid no attention to the form of the fragment. But the text he, alone, attacked with vigor. He fixed upon the line *-]νεσθαι*, which will fit *[γίγ]νεσθαι*, and the succeeding line (as it was read) *-]ντια γι[-*, which could apparently (though not actually) be made into *ἐνα]ντία* (*vel sim.*) *γί[γνεσθαι]*. The close association of these elements also in oaths, blessings, and curses might well offer a clue to the whole inscription. Bannier cites several examples, some of them in every sense remote, but the oath in Xenophon *Anab.* 5.6.4 is close enough: *εἰ μὲν ξυμβουλευόμεν ἂ βέλτιστά μοι εἶναι δοκεῖ, πολλὰ μοι καὶ ἀγαθὰ γένοιτο, εἰ δὲ μὴ τὰναντία*. Not unrelated are appeals and the like; *exempli gratia* Bannier proposed (1223) a skeleton text for the longer side, which may be laid out in lines as follows (the numbering of lines is explained *infra*):

with several other scholars, often in the presence of the inscription, I am grateful also to W. B. Dinsmoor, C. N. Edmonson, M. Lang, D. M. MacDowall, W. K. Pritchett, H. L. Stow, and H. A. Thompson. The drawings were executed by Chr. Kourouniotes, who also examined the stone; the photographs are by E. Saraf. The genial Ephor of the Epigraphical Museum, M. Th. Mitsos, has made work there pleasant for us all.

[-----] διο
 [-----] πρ]οθύ
 [μοι -----] π[ά]ντα ἀ[γ]
 [αθὰ γίγνεσθαι, γίγνεσθαι] δὲ τὸ
 [-----] ον ἔ τὸ
 [-----] γίγ]νεσθαι
 [-----] τὰνα]ντία γί
 [γνεσθαι -----]

Line
 A2
 A4
 A6
 A8
 A9

Even from the text in *IG I Suppl.*, without the new readings *infra*, some of the difficulties with Bannier's text will be obvious. Line A2: the letter read as delta is the triangular rho; in line A6 he reads another (triangular) rho as omicron, and omits the iota after it. The end of line A4 violates syllabification, which, as should have been noted, appears to be observed in all the other lines. On the other hand, though he found support in πρ]οθύ[[μοι, where several other restorations are possible, Bannier noted that πάντα is more common in curses, and he offers a second skeleton text as for a curse. But the flaws in Bannier's work are relatively minor, and the effort as a whole is admirable.

F. Hiller von Gaertringen (*IG I²* [1924] 2) printed the first and hitherto the only systematic text, in which he suggested a restoration for line A6; then he gave Bannier's views a sentence, and let it go at that.

In the case of an inscription obviously so interesting for Athenian Law Codes, at least an accurate description and text should be available, even though a final solution of the major questions is not at hand.

PHYSICAL DESCRIPTION. The stone is in the Epigraphical Museum in Athens, Inventory No. 6729 (correct *IG I²*), and is "Pentelic" marble without visible flaw. Of the two inscribed faces, one has eight lines and reads *down* the slope, as it were, nearly to the thin end. This inscribed face should be called Face A (pl. 110, fig. 1); previous writers have followed Koumanoudes blindly. When the stone is turned over, Face C (as it will be called; pl. 110, fig. 2) is found to read from the thin end *up* the slope, just as if it continued Face A. On Face C there are only four short lines, indeed only 11 letters, relaxed in spacing as if coming to an end; and in fact they are followed by a blank space. The small flat area at the thin end of the wedge, i.e. between Faces A and C, recognized as original by

Koumanoudes, may be called Face B (pl. 111, fig. 6). On the three other sides the stone is broken away. (Vertical lines in *IG I²* 2 indicate an original right side, but actually none is, or has recently been, preserved. Koumanoudes does not show it, and plainly it is a misunderstanding by Hiller. Hiller gives no dimensions and apparently never saw the stone.)

Face A preserves (inscribed) surface to the extent of 0.20 m. in height and 0.16 m. in width. Back of the inscribed surface, broken stone extends beyond, so that, measured from the bottom (Face B prolonged) to the utmost preserved point of stone, the fragment is 0.235 m. in maximum "height."

Face B, now a small triangular-shaped patch, is 0.023 m. in height and 0.033 m. in width. Originally it was 0.04 m. in height, minus at least 0.002 m. for bevelling on the edges.

Face C preserves 0.142 m. of inscribed surface vertically, and it is 0.126 m. wide.

Some hard plaster remained on both inscribed faces. In cleaning I have left plaster everywhere, in places to its full depth, so as not to endanger the surface of the marble, and in order also to exhibit the condition of the stone when found; no further cleaning, however, would reveal new letters. Squeezes were made, six in all, to record the stages of cleaning. The right side is merely dirty; it is the side more freshly (though not recently) broken, except for the bottom, which, though it has some plaster, including a softer variety, is not even dirty. The other surfaces all have brown discoloration, and the two inscribed faces, as well as Face B, appear to have a certain amount of patina. At some period, the inscription was evidently exposed. A recent scraping blow has left a white trail on Face A. The break at the right is fresh, that at the left much weathered and rounded.

AREA OF THE INSCRIPTION. It will be convenient to number the lines on Face A from line A1 through (the missing) line A9; to include Face B as (a possible) line B10; and then on Face C to number from line C11 through C14.

About the limits of the lettering several facts, always clear, can be reinforced. On Face A enough stone is preserved to show that we have the ends of lines A2, 3, 4, and 5. Doubtless A6, 7, and 8 also ended with the last preserved letters. Consonantly, on Face C we have the ends of all four lines, although by itself the first, line C11, is non-probative.

On Face C, below the last line (C14), uninscribed surface to the extent of 0.044 m. is preserved; but above, the first line (C11) is actually within 0.005 m. of the original edge. On Face A, below the last preserved line (A8), there was originally 0.031 m. of surface, of which up to 0.017 m. is preserved. This proves that there was space for a line A9; line A9 was inscribed at the left, and was not long enough to extend to our fragment.

LETTERS. The letters are deep and the trough is often broad as if rounded; but squeezes show that many letters have the usual V-shape in section. Greek masons rarely erred enough to chip out the middle of a letter, but the (triangular) middle of the rho in line 6 was chipped out apparently when it was cut, because the whole area of the rho is as darkly discolored as the surface nearby. The height of the tall letters is 0.018-0.020 m. on both faces, and the hand is the same throughout. On Face A, 6 lines occupy vertically 0.144 m., an average of 0.024 m. for each line plus inter-line. Horizontally, 5 full letters (in line A6) take 0.126 m., an average of 0.0252 m. for each letter plus inter-letter. The vertical measurements on Face C, so far as they can be determined, are the same; the horizontal are more relaxed in lines C13 and C14, as mentioned.

DATE. Only ten different letters of the alphabet happen to be preserved. The triangular rho (lines A2 and C11; in A6 the vertical extends down) is the oldest-looking feature, older than e.g. *IG I² 4* of 485/4 B.C. (J. Kirchner-G. Klaffenbach, *Imagines Inscriptionum Atticarum*³ pl. 10); and as there the bars of the epsilon have a slight downward projection. Alpha's bar has a marked slope—contrast most of *IG I² 4*; but the sloping bar does persist even to 450/49 (*IIA²* pl. 14). Suggesting a date after say 485 is the nu, which has arrived at one vertical stroke; and yet private dedications, e.g. *IIA²* pl. 6 no. 13, could have this feature in the sixth century. Certainly the present inscription is later than *IG I² 1* (*IIA²* pl. 6 no. 12) and earlier than the Tribute Lists. The size of the letters and the absence of stoichedon, plus the look of the inscription generally, might sway the balance toward a date only a little later than the similarly thick letters, set in lines closely spaced, of the boustrophedon Eleusinion inscriptions published by L. H. Jeffery (*Hesperia* [1948] pls. 30, 31), which she dates 510-480.

The orthograde writing, and the absence (at least from our fragment) of interpuncts are later features.

TEXT. The following version attempts to be accurate for readings, not for minute details of shape and position; see the photographs and commentary.

In the interpretation of the text an advance can be made by noting that all lines end with words (A5, A7, C13, C14) or syllables. Three lines (A1, A2, A4) are not clear by themselves, but undoubtedly the principle of syllabification should apply to them also.

Line A1. There is some wear, but the first marks are placed correctly for the lower right part of a low-barred alpha; both side-strokes show. Next comes a false V-cutting, the left half of which cannot be part of a letter (a similar false mark cuts across the H in line C13). The space is then preserved so far as to suggest that the letter after A is M, following which there would be room for e.g. an iota, so as to preserve syllabification.

A2. The long right branch of an upsilon is new. The reading is virtually certain, although nu cannot be absolutely excluded. If the O belongs to the last syllable, then by the principle of syllabification (*supra*), this is the end of the word.

A3. In the area of the first letter, enough blank space is preserved to make doubtful any letter except L, M, Π, Δ, Σ, Υ, or Ψ; perhaps T or Φ. On Face A, some effort was made to end the lines evenly. Hence in line A3, the wide spacing suggests either the end of a clause (?) or rather that the next syllable was of more than one letter, and so had to go over to the next line.

A4. The (final) rho, already suggested obscurely by Koumanoudes' drawing, but read as iota in later texts because the other strokes were filled with plaster, was fully revealed by cleaning, even though not all the plaster has been removed.

A5. The principle of syllabification (*supra*) means that A5 must have begun with a consonant. A trace of the crossbar of the alpha seems to show.


A6. The last two letters are certain (cf. *IG I²*) and need no dots.

A8. No trace is visible before the nu. A letter with an upper right stroke, e.g. E or Y, would show, and probably I. The letter was therefore A or O. The next-to-last letter was formerly read as gamma, but the squeeze and stone (some patina) unite to make Δ certain. The word was not Δι[έ]: the

IG I²: TRANSCRIPTION

Not stoichedon

UNCERTAIN NUMBER OF LINES MISSING

] Δ M [I [?] VAC.]	FACE A A1
] Y Δ I O VAC. 0.023m. TO BREAK →	
]  O ● Y VAC. 0.029m.	A3
] M T A A Δ VAC. 0.025m.	
] A I Δ E T O VAC. 0.20m.	A5
] O N E T Δ I [VAC.]	
] N E S ● A I [VAC.]	A7
A ^{OR} O] N T I A Δ I [VAC.]	
-----] VAC. [VAC.]	A9
VAC.?] VAC. [VAC.]	FACE B B10
] Δ] [VAC.]	FACE C C11
]  O Δ] VAC. 0.014m.	C12
] H O S VAC. 0.034m.	C13
] O N VAC. 0.068m.	C14
VAC. 0.044m. TO BREAK ↓	

second iota would have been inscribed in line A8.

B10. No trace of a letter is preserved on the small patch of original surface, and there is no special reason to believe that Face B was inscribed. It was tall enough for one line, but its height can be explained better as a suitable end for the wedge-shape. A thin sharp edge would of course be avoided.

C12. Hiller ventured $\pi\lambda\iota$, but the first letter is too near to be the long stroke of a pi, or even of a tau. The spacing indicates that it can be only iota or a rough breathing.

C13. The slanting mark attached to the first letter does not have the character of a stroke, and moreover continues beyond the vertical stroke.

RESTORATIONS. The new text definitely corrects (or adds) four letters and affects eight more. One negative fact is clear. A large part of the Law Code of Athens, as revised by Nikomakhos *et al.* in the years 411-399 B.C., was the Calendar of Sacrifices. *IG I²* 2 was definitely not part of a calendar. Except for the possible restorations $\pi\rho\lambda\iota$ in line A3, and $\Delta\iota$ in A8-A9, there is nothing to suggest that it is a *lex sacra* of any kind; and so that part of the laws may be excluded from consideration. Bannier's interpretation has lost vital support in line A8 (formerly $\gamma\iota$), so that if the interpretation as some form of oath, blessing, or curse is to be retained, then more reason must be found for it.

Something positive though formal can be said about the text. Line A9 being blank at the end, and line B10 blank where preserved and presumably throughout, the text is evidently divided into two parts: Face A, which certainly ran to 9 lines, probably to 11, but not to more than say 15 or 18; then an end of this part, with a break at the thin edge (Face B) of the stone; and finally a new part of the text on Face C, only four lines, loosely spaced, so little as to seem like an afterthought—a rider or postscript or a special text, perhaps the very words of an oath.

Beyond this there is hardly anything positive to be said. For the restoration of every line there are multiple possibilities. In dealing with imperfectly known archaeological objects, including epigraphical texts, there is a natural tendency to make extravagant, sensational claims—superficially attractive, sure to win attention, hard to forget, and wild; yet difficult to disprove. Some of these theories promptly become rooted in the tradition, and it may be a long time before their value is correctly appreciated as petty. I have no desire to add one more instance

to this practice. What follows is to be treated with all the reserves which the facts indicate.

Aristotle tells us (*Ath. Pol.* 7.1; Wycherley, *Testimonia* [*Agora III*] No. 9) that under Solon the nine Arkhontes "deposed, under an oath sworn at The Stone, that they would dedicate a golden statue if they transgressed any of the laws; whence still, even now, they swear in the same way" ($\text{o}\acute{\iota} \delta' \epsilon \nu \nu \epsilon \alpha \alpha \rho \chi \omicron \nu \tau \epsilon \varsigma \delta \mu \nu \nu \acute{\iota} \nu \tau \epsilon \varsigma \pi \rho \acute{\omicron} \varsigma \tau \hat{\omega} \lambda \acute{\iota} \theta \omega \kappa \alpha \tau \epsilon \phi \acute{\alpha} \tau \iota \zeta \omicron \nu \alpha \nu \alpha \theta \eta \sigma \epsilon \iota \nu \alpha \nu \delta \rho \acute{\iota} \alpha \nu \tau \alpha \chi \rho \upsilon \sigma \omicron \upsilon \nu, \epsilon \acute{\alpha} \nu \tau \iota \nu \alpha \pi \alpha \rho \alpha \beta \acute{\omega} \sigma \iota \tau \hat{\omega} \nu \nu \acute{\omicron} \mu \omega \nu \cdot \delta \theta \epsilon \nu \xi \tau \iota \kappa \alpha \iota \nu \acute{\upsilon} \nu \omicron \tau \omega \varsigma \delta \mu \nu \acute{\omicron} \nu \omicron \upsilon \sigma \iota$). What *λίθος* this was, no one knows: if it were an altar, probably it would have been called an altar. Two omphaloi have been found: perhaps it was one of them. But by itself, *ὁ λίθος* suggests some ancient sacred curious stone, a baetyl of some sort, called *the* stone because there was no other name for it. Could it have been a rotating, or stationary, inscribed stone, a queer-shaped "axon" or the like, predecessor of the present fragment, *IG I²* 2?

To this question there is of course no clear answer, but it is legitimate to experiment with the text.

TEXT WITH MAXIMAL RESTORATIONS

Not stoichedon

One or two or several, but
probably not over ten, lines missing

[-----τὰ τ]αμ[ε]	A1
[εἰα-----ἀργ]υρίο	2
[-----πρ]οθύ	3
[μωσ-----ἀνδρι]άντα ἀρ	4
{[γύριον-----]ντα ἀρ}	4
{[χοντα-----]αι δὲ τὸ	5
[-----μὲ ἔλαττ]ον ἔ τρι	6
[-----εὐθύ]νεσθαι	7
[-----τὰνα]ντία δι	8
[-----] vacat	9

Thin end: no text

B10

[-----δικαστή]ρι	C11
[ον-----]ὃο λί	12
[θος-----]ΗΟΣ	13
[-----]ΟΝ	14

End of text: vacat

Line A2. A. L. Boegehold points out that $\kappa\lambda\upsilon\rho\acute{\iota}ο$ (gen. sing.) is possible.

Lines A3-4. This could of course be ---] δ $\theta\acute{\upsilon}$ | $\epsilon\tau\alpha\iota$, etc.

Lines A8-9. R. S. Stroud points out that ---]ντι ἀδελ[[κ-- is possible, "to anyone doing wrong," *vel sim.*

The text thus suggested might well be (A) a series of clauses in the infinitive, shown by lines [5 ?] and 7, connected, as in decrees later, by δέ, as here in line 5; and (C) an oath (?) in which The Stone itself is mentioned in the nominative.

There is no way known to me of clinching the suggestion (or of disproving it). In line A1 the alpha is practically certain and the mu is the obvious letter for the space. The line does not *have* to end with another letter, i.e. with a vowel; but if with a vowel, iota alone will fit. It is relevant to note, though it is emphatically still in the realm of mere suggestion, that oaths were sworn πρὸς τὸν λίθον ἐφ' ο[ὗ] τὰ τόμια ἔστιν (*Ath. Pol.* 55.5), and that in place of τὰ τόμια some versions have τὰ ταμίαια (Sandys ed., pp. 217-18; Pollux 8.86, quoted in *Agora* III, No. 21).

Whether a connected text could be "restored," I do not know. Until some copy or paraphrase is found elsewhere, or at least one regularly recurring clause is recognized, such restorations will be pure fabrications.

Leave aside all these details: there remains the conception that the text is somehow related to the laws of Athens. The monument itself *may* represent an axon. There is no compelling proof from the text that it does so, merely an impression that the contents are legal.

THE ANGLES. There is a little more to be learned from the form of the fragment. The geometrical relations of the three preserved faces to each other have never been determined, but surely no speculations about the original form of the whole ought to proceed unless they take into account the hitherto unmeasured angles. The wedge-shape formed by

the two inscribed Faces A and C actually consists of an angle which measures close to 26 or 27 degrees: a quite arbitrary angle, more than a quarter ($22\frac{1}{2}^\circ$) and less than a third (30°) of a right angle. In such reconstructions as are attempted *infra*, nothing depends upon the exact size of this angle.

There is another new determination of another angle yielding an exact measure. Face B, which forms the end, as it were, of both Faces A and C, is not cut at the same angle in relation to both. On the contrary, it forms an exact right angle (90°) with Face A (it is this exactitude which proves Face B is original); with Face C, Face B forms an angle of ($90^\circ + 26\frac{1}{2}^\circ =$) $116\frac{1}{2}^\circ$. In section the fragment has the appearance shown in pl. 112, fig. 7. Thus Face A, being followed by the right angle, is once again shown to be the principal face.

FORM OF THE ORIGINAL. The evidence has now been presented. It may appear at first that there is too little basis for any reconstruction. A stone almost triangular in section might conceivably have had almost any form when complete, and the preserved fragment might be regarded as a meaningless oddity. Among all Greek inscriptions, there is none (I believe) known to have been cut on two sides of a wedge-shaped stone. Moreover it is an error, however natural (because to us stone is the most solemn of writing materials), to assume that all surviving inscriptions are equally serious and weighty public announcements, as if in antiquity no one ever chiseled frivolously on stone. Many examples could be given of various kinds of non-serious texts, but it may be portentous that Koumanoudes published, in the same article (facing 215-216) with the "axon" but with a much larger drawing, a strange inscribed block, quite different from IG I² 2 in shape, date, and text, but certainly in the main a jumble of idle cuttings of personal names.¹

¹ This inscription is one of a group of four, all published by S. A. Koumanoudes: IG II² 2449 (two drawings, *EphArch* [1885] on pages numbered 161 [add reference to IG II²], 2471a, 2471b (published with the "axon," this inscription is elaborately illustrated in *EphArch* [1885], p. "218" [should have been numbered 217] facing 215-16), 2471c. Many of the names are cut in rectangular hollows which have the appearance of having been dug out by successive erasures, many of them only partial. In 2449 two names ("lines" 16, 17) are followed by ΔΙΙ, two by ΔΙΙΣ (20) or ΔΙΙ Σ (23), i.e. ΔΙΙ Σ(ωρήσι)? No other features of the inscriptions appear to be serious.

In line 12 the isolated sigma is from an earlier inscription, and has nothing to do with the present matter. In line 20 the sigma is *not* carved over the second iota.

IG II² 2449 is now EM 4656; (correct IG II² 1620, which was inscribed on the same block); the marble, unknown in IG II², is "Hymettian." If the reference is to Zeus Soter, then of course it is the cult in the Agora, not that of Peiraeus (as in Koumanoudes, Koehler, and Kirchner). For the cult in Peiraeus, W. Judeich, *Topographie*² 84, 339 (but not 73, as in his index s.v. Zeus). For the cult in Athens, R. E. Wycherley was the first to mention IG II² 2449 (*Agora* III, *Testimonia*, p. 30; but no entry Soter in his index, under Zeus or under Soter). Apparently Zeus Eleutherios and Zeus Soter were identical; at any rate Epheboi of 116/15 B.C. were sacrificing to Zeus Soter, and this may well be the period and the source of IG II² 2449: boys erasing their predecessors' names and carving their own.—The one-letter abbreviation is unusual.

With regard to IG I² 2, however, certain facts make themselves felt. The surfaces are carefully smoothed and the letters are carefully cut: nothing about the piece suggests frivolity. Instead the facts suggest a serious intent. Faces A and B have inscriptions cut by the same hand, to the same measurements. The faces belong together: one is to be read after the other, i.e. Face A is to be read down through [the missing partial] line 9 at the thin edge, where the subject treated ends. Face C begins another section, but a short one, starting at the thin edge and continuing for four lines. Since the two texts were meant to be read in sequence, as parts of one whole, it is of crucial importance to realize that both cannot be read from one point of view. Either the spectator or the stone must move.

No inscription on stone, either preserved or lost, is known to have been designed to move. Movement by the spectator was required for rectangular blocks inscribed on two faces or (like the Jeffery inscriptions) on four; or for equilateral triangular blocks, such as bases for tripods, which might be inscribed on three; and there were octagonal inscribed stones. Other designs for a stationary inscription can be imagined (pl. 112, fig. 8), but the most rational would seem to be a stele, modified to accommodate a text which filled the front surface and had a short additional separate section, four lines in length, on the back. Accordingly one edge was thinned to a minimum, so as to help the spectator realize where the continuation was to be, and the back was smoothed at an angle to receive the text. In any case, if the monument was stationary, the lines *must* run vertically.

This design for restoration did not occur to Koumanoudes or to any other editor, but of all that could be imagined, it is the most restrained and conservative, in that it involves the least distortion of known shapes. But it also involves difficulties. No significantly similar inscription of post-490 is known to have the lines running vertically. Worse, it is not obvious why the side (Face B) had to be thinned down: the natural place for a continuation requiring only 0.098 m. of surface would have been that very side (Face B), not the back (Face C). Still today the stone is thicker, at least in the middle, than 0.10 m.

The alternative should therefore be considered, viz. that the stone itself was designed to move. By itself the stone undeniably suggests that first Face A should be in plain view, and that when Face A

was finished, the stone should be revolved to bring Face C into plain view. This effect can be obtained only by supplying a pivot, from which the preserved wedge will extend outward like a paddle on a paddle-wheel. This is, I think, the only supposition which will derive significance from the shape.

The text, however restored, almost certainly demands lines of at least moderate length: the object was not a narrow, short-lined, wheel-like thing, as in Koumanoudes' drawing. With him, however, we should naturally assume that it was mounted horizontally, to revolve counterclockwise.

Readers may wish to experiment for themselves; I supply here what seem to me the four logical possibilities (see pl. 113, fig. 9). They are all drawn to scale, as indicated. The preserved fragment is shown in such a position as to allow for at least two additional lines on Face A, but all of the designs can be expanded indefinitely.

I. Given that what we have is a trapezoid, the simplest solution might seem to be a union of four trapezoids at their large ends. But this results (a) in a short Face A with a long Face C; and (b) the mass of stone in the middle is relatively enormous. Though geometrically possible, this solution is excluded.

II. The simplest union of four *triangles* would be Koumanoudes', which, apart from the fact that it makes Faces A and C equal in height, is weak only in that it disregards the (to him unknown) angle of Face B, leaving it anomalous.

III. To make Face B seem logical, four trapezoids can be mounted on a square. But Face C still remains longer than Face A, whereas the indication is that it ought to be much shorter.

IV. Four trapezoids can be overlapped to make Face A long and Face C short. This is the only arrangement which takes all the preserved features into account. Though at first glance odd-looking, it is in reality an ingenious device for providing four extensive surfaces (Face A) plus four halves (Face C) for matter overflowed from, or supplementary to, the extensive surfaces.

AXONES. It is interesting to consider, quite apart from IG I² 2 or any other monument, how axones may have been shaped. (Literary evidence about the shape of the axones is confused, and is entirely omitted here.) The only good reason for making an inscription rotate is that by so doing the minimum

space is required, and a maximum number of texts can thus be exhibited in a given space. Two-sided boards (for no doubt we should imagine that the originals were wooden) would provide less surface than triangular prisms, and prisms less surface than objects square in section; but square objects could not rotate if placed in a row close to each other. A maximum surface, much greater than that of any simple two-, three-, four-or-more-faced solid, is provided by a paddle-wheeled axon, each of the projections being inscribed on both sides. Brief considera-

tion will show that this scheme will yield a maximum area of surface, and that the right number of projections is four.

The surviving fragment acquires interest in this light, because the relation of Faces A and C is precisely what would be expected in a four-projection axon: the projection should be thick enough for strength, and the text should read all in one direction. In short, *IG I' 2* can come from an axon.

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C-14 Dates for Sites in the Mediterranean Area

ELLEN L. KOHLER AND ELIZABETH K. RALPH

The C-14 laboratory at the University of Pennsylvania was initiated by Froelich Rainey in 1951, and is sponsored jointly by the University Museum and the Department of Physics. From the start, dating efforts have been devoted to the determination of series of C-14 dates for five regions of the world—namely, the Mediterranean, Near East, Central America, South America, and the Arctic. Results which are of special interest to prehistorians and historians of the Mediterranean area are brought together in the accompanying lists. This Mediterranean dating program was made possible by G. Roger Edwards who obtained samples from the excavators.

The emphasis has been to date series rather than isolated samples in order to minimize the inclusion of errors from non-representative samples. These errors, which we shall term "physical," are apart from C-14 methodological problems, and frequently present the greatest hazard in the determination of an accurate C-14 date, one which represents an archaeological event.

A brief explanation of the C-14 dating principle may help to clarify this "physical" problem. Natural C¹⁴ (written as C-14 for convenience), which is manufactured in the upper atmosphere by the bombardment of N¹⁴ atoms with neutrons (components of cosmic rays), forms a very small but essentially constant part of our atmospheric carbon dioxide. All living organisms such as trees and grasses contain this equilibrium amount of C-14, but when dead cease to take in C-14, so that the radioactive disintegration rate (as dictated by the half-life) then becomes paramount and determines the decrease in the amount of C-14 in the dead material. This provides the means for age determination. From these considerations it is apparent that only the outer growth layers of a tree will represent the time of the

cutting of the tree and usually the date of *construction* of a building; the inner layers of a tree are already depleted in C-14. This point has been emphasized here because for some of the dates in these series, errors of 100 or more years (too early) from this possible pitfall become important. For this reason, too, samples of grains, cloth, hide, etc. are ideal because they were used at the time that they ceased to incorporate C-14.¹

Another physical problem, also one of the true contemporaneity of the sample, is that of so called humic contamination. This may occur from the adsorption of younger finely divided, slightly soluble organic matter by the sample, and is most likely to be suspected when a sample has been exposed to continual washing by ground waters. It has not been found to be a serious contaminant except in very old age ranges, that is, tens of thousands of years. Since some of the samples on these lists, however, were composed of finely divided charcoal, a good adsorber, this possible intrusion was checked where sample sizes were adequate. Samples treated for removal of humic contaminant are labeled "pre-treated with NaOH."

A consideration equally vital in these series and a possible cause of error falls in the category of methodological problems. Since the production of natural C-14 is dependent upon the numbers of neutrons present in the upper atmosphere, it is necessary to assume that the cosmic ray intensity has been constant during past eras, and that the equilibrium between atmosphere, oceans, etc. has remained steady. Libby demonstrated in 1949² that this assumption is correct within 10%, but with the increased precision of the technique, there are indications³ that the C-14 content of the atmosphere may have differed in some past time-intervals by 1 to 2 or possibly 3% and/or that the previously ac-

¹ Information concerning sample requirements is available in the C-14 laboratory at the University of Pennsylvania.

² Libby, W. F., *Radiocarbon Dating* (2nd ed., Chicago 1955) 10.

³ Ralph, E. K. and Stuckenrath, R., "Carbon-14 Measurements of Known Age Samples," *Nature* 188 (Oct. 15, 1960) 185-87.

Willis, E. H., Tauber, H., and Münnich, K. O., "Variations in the Atmospheric Radiocarbon Concentration over the Past

1300 Years," *American Journal of Science Radiocarbon Supplement* 2 (1960) 1-4.

Broecker, W. S., Olson, E. A., and Bird, J., "Radiocarbon Measurements on Samples of Known Age," *Nature* 183 (June 6, 1959) 1582-84.

Vries, H. de, "Variations in Concentration of Radiocarbon with Time and Location on Earth," *Proc. Kon. Ned. Akad. van Wetenschappen, B* 61 (1958) 1-9.

cepted half-life value (5568 ± 30 years)⁴ is not the true one. A brief summary of this situation is as follows:

A.D. 1850 to 500 B.C. Indications of relatively short-term variations, of approximately 100 years' duration, not greater than 2% in C-14 contents (approximately 200 years when converted to ages). These are predominantly in the upward direction when compared with the Libby (5568 ± 30 years) half-life.

500 B.C. to 2000 B.C. General increasing trend of C-14 contents (going back in time) starting with less than 0.5% to a maximum of approximately 4%. Maximum error in the region of 2000 B.C. is approximately 200 years.

2000 B.C. to 4000 B.C. Possibility of errors of the order of 500 years in the younger direction. This larger discrepancy is based upon comparisons with the Egyptian chronology.

The questions of changes in the C-14 inventory in the atmosphere and the accuracy of the half-life determination are interrelated. Short term variations are due to the former, but since these are almost all in the upward direction, that is, younger (as determined by C-14 measurements of samples of known ages), they are minimized if a higher half-life value is assumed. This reasoning is now supported by the new measurement of the half-life by W. B. Mann and W. F. Marlow⁵ at the National Bureau of Standards with a value of 5760^{+70}_{-80} years.

However, because of the dual nature of this problem and the fact that two other careful determinations of the half-life are in process, the ages in underlined type in this article have been calculated with an estimated "effective" half-life value of 5800 years. This value has been obtained from the C-14 measurements of 18 samples (plus standard calibration samples) of known age⁶ which range in age from A.D. 100 to 1900 B.C. Since 1961 is an interim period in regard to the solution of these methodological problems, and our known age data are incomplete, we wish to emphasize that this is our present best estimate of a reasonable value, but that it is in closer agreement with the true ages of wood samples and is supported additionally by the

new half-life determination performed by the National Bureau of Standards. For the sake of conformity with other C-14 laboratories and publications in the *American Journal of Science Radio-carbon Supplement* in 1961, the dates calculated with the Libby half-life value (5568 years) are listed also.

Since it is difficult to evaluate the accuracy of this estimated 5800 half-life at this time, the half-life error has *not* been included with the statistical counting errors quoted with the C-14 dates. It is obvious, however, from the discrepancy between the two values, that a large source of error may have existed due to this half-life uncertainty. In addition, the possible variations in cosmic ray intensity have not yet been determined accurately enough for corrections to be made. Therefore, it must be kept in mind that the C-14 dates are subject to these two methodological (in addition to statistical) errors which could, but probably do not, add up to a maximum of approximately 5% (of the B.P., before present, ages). It seems appropriate, however, for our laboratory to make this realistic change to the 5800 half-life (rather than 5568) at this time since the C-14 dates which we published prior to 1959 were based upon a similar series of known age measurements, that is, an "effective" half-life which, within the greater uncertainty of C-14 measurements of several years ago, is in agreement with our present value.

We have illustrated this methodological correction graphically for the Lerna series in ill. 1 in which C-14 dates, calculated with both half-life values, are plotted.

In the preceding paragraphs, various sources of error (for which one must be cautioned concerning the interpretation of dates) have been discussed. As is apparent from the specific comparisons of contemporaneous samples, many of the "physical" errors, especially humic acid contamination, are negligible in the Mediterranean series. There still exist, of course, the statistical uncertainties—the standard statistical deviations quoted with each C-14 date. The latter are due to the random nature of radioactive decay and are unavoidable. They have been reduced, however, by counting each sample two or more times and, in some cases, by counting duplicate portions of samples. Only the averages of the

sections, the dates of which have not yet been published. Ralph wishes to acknowledge with gratitude the financial support of the National Science Foundation (grant G-14094) for our known-age dating program.

⁴ Libby, W. F., *op.cit.* 36.

⁵ Marlow, W. F., private communication (Jan. 10, 1961).

⁶ Thirteen of these samples are described by Ralph and Stuckenrath, *op.cit.* Five consisted of selected sequoia tree-ring dated

several counts appear in the lists. The standard statistical deviation (frequently called one *sigma*) must also be used with caution, for it indicates that it is probable only two times out of three that the true date lies within the range of the error quoted. If doubled (two *sigma*), then there is only one chance in twenty-two that the true value lies outside this range. The temptation to extract individual dates from a series may be avoided if these probabilities are taken into consideration. For example, among three dates in a chronological series, one seems not to fit. If it is realized, however, that in three chances, one would be expected to fall outside the one *sigma* tolerance, then this apparent discrepancy may correctly be attributed to chance.

The samples in these lists were counted by the pure carbon dioxide proportional gas counting technique with equipment similar to that described by G. J. Fergusson.⁷ All samples were pretreated with hydrochloric acid for removal of inorganic carbon compounds. Some, as noted, were also pretreated

with sodium hydroxide for removal of possible humic contaminants. Corrections for variations in natural fractionation as determined by C^{13}/C^{12} ratios have not been made, and are believed to be unimportant.

The sites are presented in geographical order, approximately south to north through Anatolia, and north to south through Greece, ending with Chios. It so happens that this preserves an approximately chronological order within the two major groups. The sites dated are as follows:

Anatolia:

Hacilar
Beycesultan
Gordion

Greece:

Eutresis
Lerna
Pylos
Chios

HACILAR

The British Institute of Archaeology at Ankara began excavations in 1957 on one of the habitation mounds near the village of Hacilar, 25 km. west of Burdur, in southwestern Turkey. James Mellaart, the Assistant Director of the Institute, was field director. As dated by ceramic and other cultural parallels, Levels I (at top) to V are considered to be Early Chalcolithic, and Levels VI to IX (at bottom), Late Neolithic. The samples were collected by Mr. Mellaart in 1958 and 1959. Preliminary excavation reports have appeared annually in *Anatolian Studies* beginning with Volume VIII (1958).

In the Hacilar series the portions of samples labeled "A" were pretreated with NaOH for removal of possible humic acid contamination. The difference between C-14 dates of portions was significant only for sample P-313. It may, therefore, be assumed that humic acid contamination, if present, was of slight degree. For samples P-314 and P-315, the dates listed are the averages of the two portions.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-314. Level IX, Late Neolithic	5393 ± 92 B.C.	5687 ± 96 B.C.
Charcoal fragments in rubbish deposit. The dates of the individual portions, calculated with 5568 half-life, are as follows:		
P-314	5298 ± 143 B.C.	
P-314-A	5487 ± 115 B.C.	
P-313-A. Level VI, Late Neolithic	5399 ± 79 B.C.	5693 ± 82 B.C.
Charcoal from a hearth in use before a fire. The date of portion P-313, calculated with half-life 5568, is 5196 ± 93 B.C.		

⁷ Fergusson, G. J., "Radiocarbon Dating System," *Nucleonics* 13 (Jan. 1955) 18-23.

* Please note that errors quoted for C-14 dates are statistical deviations only and do not include the uncertainty of either half-life value.

Christian Calendar Age
Calculated with Half-life:*

5568

5800

P-316-A. Level II, Early Chalcolithic

5219 \pm 131 B.C.5506 \pm 136 B.C.

Charcoal from roof beam in Early Chalcolithic settlement, area N, room 4. Since the excavations of 1958, it has become clear that there are two phases of Level II. This sample would then date the construction of the later phase (IIb). The first portion of this sample (P-316) was not processed.

P-315. Level Ia, Early Chalcolithic

5037 \pm 119 B.C.5317 \pm 124 B.C.

Charcoal from a roof beam in Early Chalcolithic fortress, room 5. Roof beam represents construction date of the fortress. The dates of the individual portions, calculated with 5568 half-life, are as follows:

P-315 5097 \pm 221 B.C.P-315-A 4976 \pm 90 B.C.

BEYCESULTAN

Beycesultan is located in the upper Maeander River Valley, 5 km. south of the modern village of Civrîl, in southwestern Turkey. Excavations, begun in 1954, were sponsored by the British Institute of Archaeology at Ankara; Seton Lloyd was the director and James Mellaart, his assistant. Samples were collected by Mr. Mellaart during the 1958 season. Cf. *AnatSt* 8 (1958) 93-125 and 9 (1959) 35-50.

P-297.⁸ Level XXVIII2740 \pm 54 B.C.2928 \pm 56 B.C.

Lump of charcoal from sounding "SX," referable to "ca. middle of Late Chalcolithic sequence."

P-298. Level XXXVI

3014 \pm 50 B.C.3213 \pm 52 B.C.

Charcoal, from fifth building level above virgin soil.

GORDION

Since 1950 the University Museum, Philadelphia, has been excavating at Yassihüyük-Gordion, the site of the capital of the Phrygian Empire. It lies on the Sangarius (modern Sakarya) River, ca. 70 miles southwest of Ankara. The City Mound contains strata dating from the Chalcolithic to the Galatian periods. Burials were in earth tumuli which date from the earliest (so far opened), ca. 740 B.C., and continue down to Hellenistic. There is also a cemetery of earth burials and cremations of Hittite and later times under and near Tumulus H. Samples were collected in 1950, 1951, 1955, 1957 and 1959 by Rodney S. Young, the Field Director. Interim campaign reports by him or G. Roger Edwards, Assistant Field Director, have appeared in University Museum Bulletins 16-1 (1951) and 17-4 (1952) and in *AJA* each year since 1955.

Interval between Hittite and Phrygian on the City Mound

P-137. Level "Phrygian IVA" in Deep Cut, Trench NCT

1155 \pm 125 B.C.1280 \pm 130 B.C.

Charcoal sample from a fallen beam lying on the floor of Level IVA. Estimated age: 10th-9th c. B.C.

* Please note that errors quoted for C-14 dates are statistical deviations *only* and do not include the uncertainty of either half-life value.

⁸ Samples P-297 and P-298 were both divided into portions;

one of which was pretreated with NaOH. Since the difference between the two results was statistically not significant, the dates listed are the averages of the two portions.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
<i>Pre-Cimmerian Phrygian Tumuli</i>		
P-363. Tumulus W ⁹	766 ± 45 B.C.	875 ± 47 B.C.
Roof beam fragments: wood slivers and strips (large pieces showed slight signs of rot on edges, considerable dust present, either ashy material or rotted wood). Estimated age: 740-700 B.C.		
P-127. Tumulus MM (Royal Tomb) ¹⁰	743 ± 90 B.C.	851 ± 94 B.C.
<i>Juniperus drupacea</i> from log of outer wall of tomb. Estimated age: 725-700 B.C. Recent examinations of the tree-ring pattern of this log have revealed that some shaping of the log was performed which may have removed approximately 100 growth rings.		
P-275. Tumulus MM (Royal Tomb)	612 ± 52 B.C.	715 ± 54 B.C.
<i>Acer pseudoplatinus</i> , part of the top of a 3-legged plain table found collapsed on floor of the tomb.		
P-128. Tumulus MM (Royal Tomb)	673 ± 90 B.C.	778 ± 94 B.C.
Textiles from coverlet on bed, NW corner of tomb.		
P-134. Tumulus MM (Royal Tomb)	648 ± 117 B.C.	752 ± 122 B.C.
Greasy substance (food?) contained in bowl #148 in tomb.		
<i>Pre-Cimmerian Phrygian Habitation Level on City Mound</i> ¹¹		
P-135. Megaron 3 ¹²	665 ± 119 B.C.	770 ± 124 B.C.
Charred wood from outer surface of roof-beam. Estimated age: 700 ± 25 B.C.		
P-136. Clay Cut, Burnt Phrygian House, North Room	732 ± 120 B.C.	840 ± 125 B.C.
Charcoal. Estimated age: 700 ± 25 B.C.		
P-99. Clay Cut, Burnt Phrygian House, North Room	713 ± 114 B.C.	820 ± 119 B.C.
Charcoal lumps contained in red-polished pitcher on floor. Estimated age: 700 ± 25 B.C.		
<i>Post-Cimmerian Phrygian Tumulus</i>		
P-221. Tumulus S ₁ Chamber	710 ± 54 B.C.	817 ± 56 B.C.
Wood, reddish in color, very light in weight. Estimated age: 700-600 B.C.		
<i>Iron-Age Burial, Date Unknown</i>		
P-352. Tumulus H Cemetery, Burial at U	436 ± 53 B.C.	532 ± 64 B.C.
Wood, red, crumbling; no pots or other finds for dating. Estimated age: 750-500 B.C.?		
<i>Burials of Persian Period</i>		
P-222. Tumulus H Cemetery. Burial A-161	527 ± 38 B.C.	626 ± 40 B.C.
Charcoal and wood chips. Estimated age: 550 ± 25 B.C.		

* Please note that errors quoted for C-14 dates are statistical deviations only and do not include the uncertainty of either half-life value.

⁹ Young, *AJA* 64 (1960) 227-32 and pl. 55. This sample may have been from a squared beam. See discussion of inner wood

problem at the end of this section.

¹⁰ Young, *AJA* 62 (1958) 147-54 and pls. 23-27.

¹¹ Cf. plan, *AJA* 64 (1960) pl. 57, fig. 16.

¹² *AJA* 64 (1960) 237-40.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-30. Tumulus F, Cremation	470 ± 51 B.C.	567 ± 53 B.C.
Charcoal lumps from grave. Estimated age: 525 ± 25 B.C.		
P-256. Tumulus I, Cremation	563 ± 53 B.C.	664 ± 63 B.C.
Charred wood (2 pieces of bark and small twigs or branches) from pyre. Estimated age: 525 ± 25 B.C.		
<i>Hellenistic-Galatian Habitation Level on City Mound</i>		
P-257. Trench NCT-W, House A, Room 1	172 ± 51 B.C.	257 ± 53 B.C.
Large lumps of clean charcoal (sample taken from outer 10 rings of piece showing 40 to 45 growth rings from center). Es- timated age: 200 ± 25 B.C.		

Several samples of wood from Gordion yielded unexpectedly old dates; these, upon analysis of the ring structures of some of the samples, could be inner wood and therefore may not date the building of the structures from which they came. They are arranged here in chronological order according to the excavator's estimates of their dates. A general commentary follows the list.

P-133 came from Tumulus MM which contained the tomb datable 740-700 B.C., and was wood from a squared beam of *Pinus nigra pallasiana* used for the inner wall of the tomb chamber. The sample was taken from the outer surface of the beam, but it is suspected that these trees grew large enough for a hundred years or so of growth rings to have been removed in the shaping of this squared beam by the builders of the tomb. The C-14 date obtained was (981 ± 122 B.C.) 1099 ± 127 B.C.¹³

P-358, from Tumulus N, was a sample from among the beams lining the burial chamber. The tomb has a possibly long range of date, as the contents were not very distinctive, but should fall between 700 and 600 B.C. The wood was reddish and in crumbling condition. The C-14 date obtained was (937 ± 81 B.C.) 1053 ± 84 B.C.

P-220 was collected in 1951 from inside Tumulus J (datable approximately 650 ± 50 B.C.) and could have come from either the floor or a collapsed roof beam of the chamber. The wood was dry and crumbled into chips, and a few pieces were slightly charred; several rootlets were removed. The C-14 date obtained was (800 ± 39 B.C.) 910 ± 41 B.C.

P-356 was a sample of crumbling red wood from the chamber of Tumulus S₂ with estimated date of 650-550 B.C. according to R. S. Young. The C-14 result was (970 ± 33 B.C.) 1087 ± 34 B.C.

From the Persian level on the City Mound three samples, P-353, P-223, and P-218, were submitted. All were from buildings which must have been constructed in the interval, 540-500 B.C. P-353 consisted of three large pieces from the burned threshold of Building A, which was constructed ca. 540 B.C. It yielded a C-14 date of (962 ± 43 B.C.) 1079 ± 45 B.C. P-223 came from the Persian Gateway, and consisted of powdery red wood from inside the "leaning tower" of this construction. The C-14 date was (882 ± 34 B.C.) 996 ± 35 B.C. P-218 was a piece of wood from the fallen doorpost in the Gateway and consisted of a portion of a log, partially powdery. The C-14 date was (946 ± 41 B.C.) 1062 ± 43 B.C.

For most of the above samples, several portions were processed, and for all except P-358, the portions were counted several times. This additional processing and extra care in counting was performed before it was realized that the growth rings in these woods were exceptionally narrow. Since these samples

* Please note that errors quoted for C-14 dates are statistical deviations *only* and do not include the uncertainty of either half-life value.

¹³ For the non-representative samples from Gordion, C-14

ages calculated with the 5568 half-life are shown in parentheses; those which are calculated with the half-life of 5800 years are underlined.

consisted of crumbling dry wood or of charcoal of indeterminate structure, cross sections of *Juniperus drupacea* were examined. Two large sections with diameters of approximately 40 cm. from Tumulus MM contained, at least, 375 and 620 growth rings respectively. One small section of 15 cm. diameter from the rubble which supported the Persian Gate construction contained 140 growth rings. (For dendrochronological purposes, *Juniperus* is not ideal, but these sections were the only ones available here.) It has not yet been demonstrated that the rings represent annual growth. However, the erroneously old C-14 dates indicate that this assumption is plausible. On the basis of C-14 dates reported for Tumulus MM, it seems reasonable to assume that these well-preserved sections, which were examined, were representative of the wood which was used at Gordion during this time interval. For example, the C-14 dates for the *Juniperus drupacea* (P-127) sample which was an outer semi-unfinished log, and for textiles (P-128), and for food (P-134) are in reasonable agreement with the estimated archaeological date of 725 B.C., whereas that for a *squared* beam of the inner wall (which consisted of *Pinus nigra pallasiana*, P-133) was $(981 \pm 122 \text{ B.C.})$ $1099 \pm 127 \text{ B.C.}$ Examinations of the construction of this tomb¹⁴ have revealed that it was built within a short period of time; that is, the outer growth layers, if present, of the inner and outer walls should be contemporaneous.

It therefore seems reasonable to conclude that the C-14 dates for these eight samples are not representative of the dates of construction of the structures. The samples consisted of the fragments of remaining wood which antedated the cutting of the trees by several hundred years. These botanical observations, in conjunction with the tree-ring analyses, may contribute useful information in regard to the changes that took place at this site. The patterns of slow growth indicate that the forests at Gordion may already have been marginal in Phrygian times, and might have died out naturally even if they had not been cut extensively. Vitruvius' comments (2.1) are particularly à propos. He stated that "... the Phrygians, who live in an open country, have no forests and consequently lack timber."

EUTRESIS

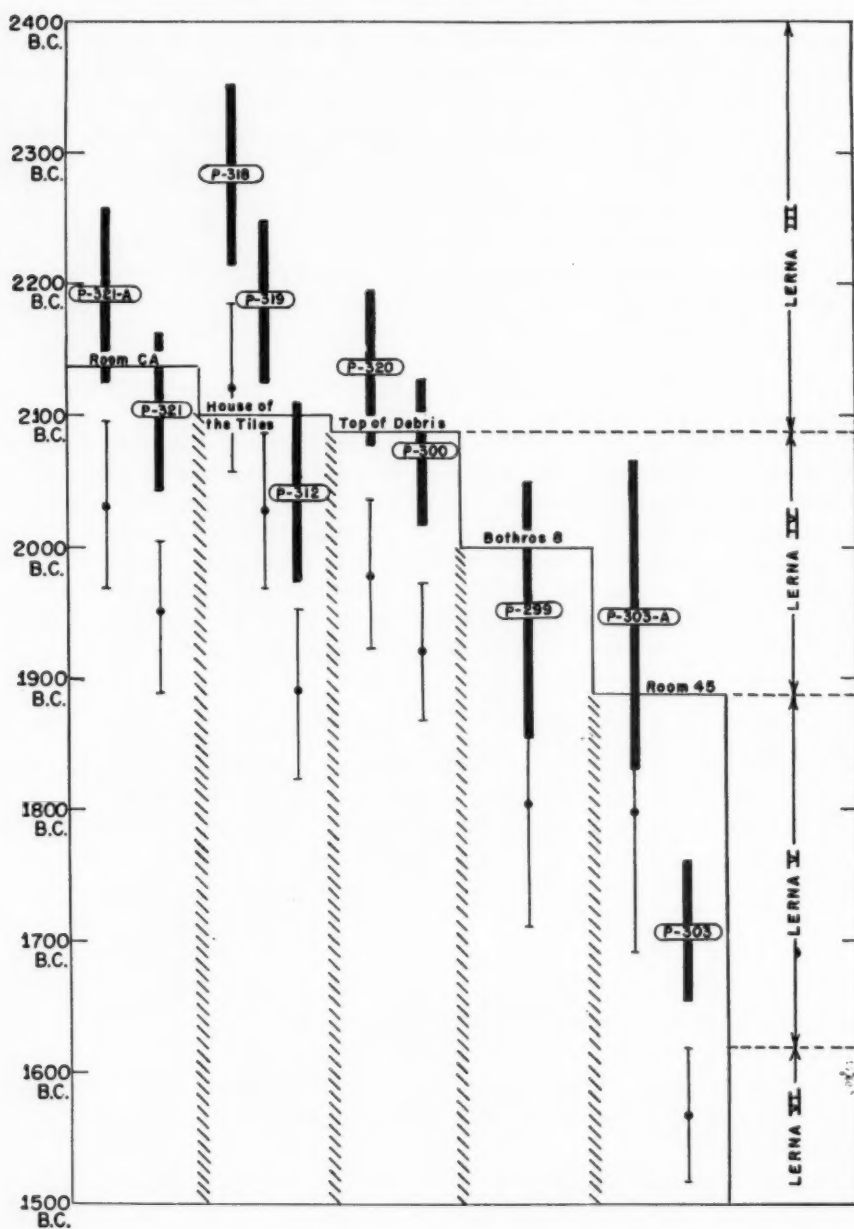
Eutresis is located in Boeotia, southwest of Thebes. The excavation, supplementary to that of Miss Hetty Goldman (1924-1927), was conducted by J. L. and Elizabeth Caskey for the American School of Classical Studies at Athens in September, 1958. The report was published in *Hesperia* 29 (1960) 126-67. For specific comments on samples P-307 and P-306, see p. 164. Samples were collected from stratified deposits.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-307. Early Helladic I (Eutresis, Group III) Charcoal from habitation deposits, Trench A, West, 1.17 m. above datum. Pretreated with NaOH.	$2492 \pm 57 \text{ B.C.}$	$2670 \pm 59 \text{ B.C.}$
P-306. Early Helladic I (Eutresis, Group IV) Charcoal from habitation deposits, ca. 1.50 m. above datum. Pretreated with NaOH.	$2496 \pm 69 \text{ B.C.}$	$2673 \pm 72 \text{ B.C.}$
P-317. Early Helladic II (Eutresis, Group VIII) Charcoal from floor deposit in House L, Room III, ca. 2.50 m. above datum.	$2262 \pm 56 \text{ B.C.}$	$2431 \pm 58 \text{ B.C.}$

LERNA

Lerna is situated on the western shore of the Argolic Gulf, opposite Nauplia. The site is beside the Lernaean Spring, at the modern village of Myloi. It was occupied in the Neolithic and Bronze Ages,

* Please note that errors quoted for C-14 dates are statistical half-life value.
deviations only and do not include the uncertainty of either ¹⁴ See note 10 supra.



ILL. 1. Carbon-14 dates for Lerna samples. The stepped horizontal line represents the *lower limits* of Caskey's archaeological dating, based upon his excavational evidence, and his overall Lerna periods are indicated on the right of the figure. The C-14 dates are represented by ovals with vertical bar extensions to delineate the limits of the standard statistical deviations. The numbered ovals and heavy bar extensions are the C-14 dates calculated with our estimated "effective" half-life value of 5800 years. The small dots with thin line extensions represent the same samples with ages calculated with the Libby half-life value of 5568 years.

and, to some extent, in later times. Excavations were conducted by the American School of Classical Studies at Athens in annual campaigns, 1952-1958, under the direction of J. L. Caskey. Samples were collected from levels assigned on evidence of stratigraphy to the Early and Middle Bronze Ages. Samples from the Neolithic levels proved to be too small for analysis. Preliminary reports on the excavations have been published in *Hesperia* 23 (1954) and 28 (1959).

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-321. Late Early Helladic II (Lerna Period III) Charcoal from floor of burnt room, CA, in Trench GK; 4.70 m. above sea level; precedes the House of Tiles.	1946 ± 58 B.C.	<u>2102 ± 60 B.C.</u>
P-321-A Same Pretreated with NaOH. ¹⁸	2031 ± 64 B.C.	<u>2191 ± 67 B.C.</u>
P-312. Late Early Helladic II (Last Phase, Lerna Period III) Charcoal from burnt debris in Corridor IV of the House of the Tiles.	1887 ± 65 B.C.	<u>2041 ± 68 B.C.</u>
P-318. Late Early Helladic II (Last Phase, Lerna Period III) Charcoal from burnt debris (presumably woodwork) in Cor- ridor IV near Door E, House of the Tiles.	2120 ± 65 B.C.	<u>2283 ± 68 B.C.</u>
P-319. Late Early Helladic II (Last Phase, Lerna Period III) Charcoal from burnt debris near east end of Corridor IV, House of the Tiles (with slight possibility of contamination from a rubbish pit of Lerna Period IV).	2027 ± 59 B.C.	<u>2186 ± 61 B.C.</u>
P-320. Late Early Helladic II or Early Early Helladic III (Late Phase, Lerna Period III or Early Phase, Lerna Period IV) Charcoal from Area BB, burnt debris over northwest part of the House of the Tiles, about 1 m. above the floor. Probably contemporary with the building, but possibly affected by ac- tivity in the first phase of Period IV.	1978 ± 58 B.C.	<u>2136 ± 60 B.C.</u>
P-300. Early Early Helladic III (Early Phase, Lerna Period IV) Charcoal from Area BC, west of the House of the Tiles, just above the burnt debris of the building. Pretreated with NaOH.	1919 ± 53 B.C.	<u>2073 ± 55 B.C.</u>
P-299. Early Helladic III (Third Building Phase, Lerna Period IV) Charcoal from Area BH, a rubbish pit (Bothros 8), containing refuse and broken pottery. Pretreated with NaOH.	1803 ± 93 B.C.	<u>1952 ± 97 B.C.</u>
P-303. Middle Helladic (First Phase, Lerna Period V) Burnt material in large storage jar in Room 45, Area BE.	1568 ± 51 B.C.	<u>1708 ± 53 B.C.</u>
P-303-A. Same Pretreated with NaOH.	1798 ± 108 B.C.	<u>1948 ± 117 B.C.</u>

An examination of the dates from Lerna, shown in ill. 1,¹⁹ indicates, at first glance, a lack of statistical consistency. For example, the difference in age between the two portions of sample P-303 appears to be significant. When it is realized, however, that in a group of ten C-14 dates, at least two might be

* Please note that errors quoted for C-14 dates are statistical deviations only and do not include the uncertainty of either half-life value.

¹⁸ The second portion of this sample is listed separately in

order to illustrate graphically (in ill. 1) that the difference is not significant.

¹⁹ We are indebted to Dr. Caskey for supplying the original sketch for ill. 1.

expected to fall outside of the one *sigma* tolerance, then this apparent discrepancy may be attributed to chance.

The change in C-14 dates due to the half-life shift is also shown graphically in ill. 1.

PYLOS

Pylos is located on a hill called Epano Englianos, 4 miles north of Navarino Bay in Western Messenia. Excavations begun in 1952 are being conducted by the Archaeological Expedition of the University of Cincinnati in cooperation with the Greek Archaeological Service. The Palace seems to have been built and occupied in the period when pottery of Late Helladic, or Mycenaean, III B was in use. At the present stage of excavation, the site comprises two administrative and residential buildings as well as a Workshop and a Wine Magazine.¹⁷ The southwestern unit was probably erected first and the main central structure soon thereafter. All parts of the Palace as well as the lower town were destroyed by fire at the end of Mycenaean III B. In 1958 and 1959 carbon samples from the Main Building, the Workshop, the Wine Magazine, and from neighboring areas on the acropolis were collected by C. W. Blegen and Marion Rawson. Preliminary reports on the excavations have been published each year since 1953 in *AJA*.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-254. Southeast of Wine Magazine, "probably earlier than the Palace" Charcoal, possibly from earlier building cut through by foundations of Wine Magazine. Pretreated with NaOH.	1499 ± 54 B.C.	1636 ± 56 B.C.
P-270. Southeast of Wine Magazine, "probably earlier than the Palace" Charcoal lumps in black burned earth above pavement of building earlier than the Wine Magazine. Pretreated with NaOH.	1385 ± 41 B.C.	1519 ± 43 B.C.
P-340. Southeast of Wine Magazine, earlier than Wine Magazine, but possibly contemporary with Main Building of Palace Charcoal. Pretreated with NaOH.	1371 ± 48 B.C.	1504 ± 50 B.C.
P-326. Palace of Nestor, Main Building, middle Late Helladic III B ¹⁸ Charcoal (and rootlets) from a squared door jamb of SE door of Queen's Hall.	1500 ± 58 B.C.	1638 ± 60 B.C.
P-330. Palace of Nestor, Main Building, middle of Late Helladic III B Charcoal, from a horizontal squared beam above dado behind sentry stand, NE side of the doorway leading from portico to vestibule of the Megaron.	1405 ± 40 B.C.	1540 ± 42 B.C.
P-329. Palace of Nestor, Main Building, middle of Late Helladic III B Charcoal (and rootlets) from a horizontal squared beam above dado in E corner of inner portico of Propylon.	1306 ± 55 B.C.	1437 ± 57 B.C.
P-328. Palace of Nestor, Main Building, middle of Late Helladic III B Charcoal (and rootlets) from a horizontal squared beam above dado in NE anta of portico of the Megaron.	1265 ± 57 B.C.	1394 ± 59 B.C.
P-332. Palace of Nestor, Wine Magazine, late in Late Helladic III B Two charcoal samples were combined from (a) W door jamb of door to vestibule, and (b) beam-slot in W wall of vestibule. Pretreated with NaOH.	1185 ± 53 B.C.	1311 ± 55 B.C.

* Please note that errors quoted for C-14 dates are statistical deviations only and do not include the uncertainty of either half-life value.

¹⁷ See latest plan, *AJA* 64 (1960) pl. 39.

¹⁸ Samples P-326, P-330, P-329, P-328, and P-337 were too small for pretreatment with NaOH for removal of possible humic acid contamination.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-341. Palace of Nestor, Workshop, late in Late Helladic III B Charcoal lumps, with red and black burned earth, debris from the destruction of the Palace. Pretreated with NaOH.	1055 \pm 48 B.C.	1176 \pm 50 B.C.
P-337. Northeast of Workshop, late in Late Helladic III B Charcoal, with debris fallen from NE wall of Workshop; thrown down at time of destruction of Palace.	1076 \pm 53 B.C.	1197 \pm 55 B.C.

Samples as noted were pretreated for removal of possible humic acid contamination. As can be seen from comparisons of samples from adjacent levels (for example, compare P-341 and P-337), humic acid contamination was not prevalent in these samples.

In this series, it is apparent, however, that some samples (see P-254 and P-326) may be erroneously old, of the order of 100 years or more, because they may not have been taken from the outer growth layers of the trees that were used for the constructions. This supposition is supported by the fact that samples P-326, P-330, P-329 and P-328 were obtained from beams which had possibly been squared. We assume that a squared beam could have been fabricated from a tree at least 200 years old, from which 100 or more growth rings were removed in the process of shaping.

It is interesting to note that the C-14 dates calculated with the 5800 half-life value place all samples close to or earlier than 1200 B.C., the date estimated by Blegen and Rawson for the destruction of the site.

EMPORIO, CHIOS

Excavations were carried on by the British School at Athens from 1952 to 1955 under the directorship of M. S. F. Hood, assisted by J. Boardman and others, at Emporio on the E side of the southern tip of the island of Chios. Samples were collected by Mr. Hood during the 1954 season. Cf. *JHS* 74 (1954) 162-64; 75 (1955) Arch. Suppl. p. 20; *Archaeology* 8 (1955) 245-51.

	Christian Calendar Age Calculated with Half-life:*	
	5568	5800
P-273. Settlement of Early Bronze Age (Troy I) Period Charcoal from remains of wooden beams in one room of a house in the Troy I settlement, destroyed by fire. About 2 m. from surface. Pretreated with NaOH.	2025 \pm 92 B.C.	2183 \pm 96 B.C.
P-292. Late Roman or Byzantine ¹⁹ Charcoal lumps from the bottom of a concrete-lined cistern in fortified Roman settlement on top of acropolis.	A.D. 1027 \pm 32	A.D. 990 \pm 33

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* Please note that errors quoted for C-14 dates are statistical deviations *only* and do not include the uncertainty of either half-life value.

¹⁹ Sample P-292 was divided into two portions; one of which

was pretreated with NaOH. Since the difference between the two results was statistically not significant, the date given is the average of the two.



Xerxes' Route over Mount Olympos

W. KENDRICK PRITCHETT

PLATES 114-117

Any study of the historiography of Herodotos must embrace the problem of his accuracy as a topographer. Probably the most valuable means available to the modern interpreter for a control of the historical soundness of the ancient historian is a study of the geographical evidence. Topography changes relatively little, and what alteration has occurred can usually be determined.

So basic is this question of topographical accuracy that modern judgments about the method of composition of an ancient "history" cannot be convincing unless they are premised on a sound solution of the problem. Thus, when the scholar who has written most recently on the subject of the composition of the *History* of Herodotos states: "When we use Herodotos as our main source for the reconstruction of Xerxes' invasion and the great battles of 480-479 it may therefore be helpful if we bear in mind . . . that his accounts were set down at least twelve or thirteen years after most of the material was collected and the sites visited, when and if they were visited at all; that they were probably set down from memory without adequate notes,"¹ etc., the writer's *a priori* assumptions about possible topographical defects in the *History* have clearly conditioned his theory about the manner of composition. The question of inaccuracies in Herodotos' topography becomes, therefore, a matter of basic research.

Early in my studies of Herodotean battlefields, I became aware that there is one topographical section of Herodotos where no modern scholar, from Leake and Tozer to Macan and How, has believed that the historian was correct. This section is the one in which Herodotos describes the route taken by the army of Xerxes when he passed from Macedonia over Mount Olympos into Thessaly.

Mount Olympos, perhaps the most widely celebrated mountain in all literature, is actually a chain,

the loftiest in Greece, rising to a height of 9,571 feet. It stretches in the general direction SE-NW, bordering the Thermaic Gulf. To the north and east are immense precipices. The chain is clearly defined in the south by the Peneios River, which forms the Vale of Tempe and here divides Mount Olympos from Mount Ossa; in the southwest by the Melouna pass; in the north by the Petra pass; in the east by the plain of Katerini and the Thermaic Gulf. The lower Olympos is separated from the upper Olympos by a depression called in antiquity the valley of the Sus (now Zeliána).

Mount Olympos was not adequately described topographically until the extraordinary survey and beautiful map of Kurz appeared in 1923. Before the frontier was removed far northward in 1912, after the Greek victory over the Turks, travellers had faced many impediments, faint-hearted guides, bad weather, but chiefly brigands. The map of Heuzey (1855), on which so many classical scholars have relied, is poor and his topography insufficient.² He came in sight of St. Elias which he considered the summit. In 1865, Tozer could not persuade his men to bivouac. In 1911, the German Edwart Richter failed when he fell into the hands of brigands, who held him captive for several months, until they extorted 19,000 pounds in gold as ransom. In 1913, MM. Baud-Bovy and Boissonnas of Geneva reached the real summit, but kept the fact to themselves until 1919.³ Kurz, a member of the Swiss topographical mission, with apparatus carried on two mules, used the technique known as stereo-survey and within a few weeks transformed Olympos into one of the best-mapped mountains of the world.

My own travels, accompanied by Eugene Vanderpool, Professor of Archaeology at the American School of Classical Studies in Athens, include the following:

¹ R. Lattimore, *CP* 53 (1958) 19. The author gratefully acknowledges a travel grant from the Penrose fund of the American Philosophical Society which was of great assistance during one of the two summers he devoted to this study. Part of this article was read as a paper before the Archaeological Institute of America in New York, December, 1959.

² Cf. M. Kurz, *Le Mont Olympe* (Paris 1923) 56: "Sa con-

ception topographique de l'Olympe a malheureusement prévalue, elle aussi, et nous pourrions constater la répercussion de ses erreurs pendant un demi-siècle encore."

³ As recently as 1916, Freshfield, writing in the *Geographical Journal* 47 (1916) 296, complained that the narratives and diagrams of travellers with regard to Olympos are "not only scanty but contradictory."

1. Through the Petra pass from Katerini in the east to Elason in the west.

2. Through the Melouna pass from Elason to Larisa.

3. Through the Volustana pass from Veroia to Elason.

4. Penetration of the Zeliána (Σῦς) from a position a little north of Skotina to a position west of the abandoned monastery of the Holy Trinity and east of the village Karya.

5. From near the eastern mouth of the Peneios river to the village Rapsane.

6. Through the Vale of Tempe, from Larisa to Platamon; then northwards to Thessalonike by way of Veroia.

7. An ascent from the site of the ancient town of Gonnos, near the western exit of the Vale of Tempe, to Nezero (Kallipeuke) with its drained lake, and then a descent to the Zeliána within sight of Karya.

8. Exploration of the area around Nezero, including Mount Metamorphosis and the place called Gephyra Karavida.

A general sketch map of the Olympos area is shown in pl. 114, fig. 1.

Herodotos gives the following information about Xerxes' route. While his entire military force, both army and navy, was quartered in Therme (7.127), Xerxes inspected from the sea the mouth of the Peneios river which flows through the Vale of Tempe (128-130). The army advanced into Pieria and tarried many days, while one of its three parts was cutting a road through the mountain into Perrhaibia (131). In the meantime, the Greeks, ten thousand strong, under the command of the Spartan Euainetos and the Athenian Themistokles, had landed at Alos in Achaia Phthiotis and journeyed to the Peneios river at Tempe (173). They remained but a few days there, then made their way back to their ships and returned to the Isthmus of Corinth. "To my thinking what persuaded them [to return] was fear, when they learnt that there was also another passage into Thessaly by way of upper Macedonia through the country of the Perrhaiboi past the city of Gonnos, by which way the army of Xerxes did in truth enter" (173).

Herodotos clearly believed that there was one passage used by the entire land force. He calls it

the upper road (ἡ ἄνω ὁδός) in contrast to the lower road through Tempe (7.128). It began in upper Macedonia (ἡ ἄνω Μακεδονίη: 7.173.4; cf. 7.128, οἱ Μακεδόνες οἱ κατ' ὑπερθε οἰκημένοι), passed through the country of the Perrhaiboi (ἐς Περραιβούς: 7.131.1; διὰ Περραιβῶν: 7.173.4), and ended at the town of Gonnos (παρὰ Γόννον πόλιν: 7.128.1, 173.4).

From his clear and detailed account of the march of Xerxes we may query whether Herodotos did not write from direct observation, at least in part. There are strong grounds for believing that he had gone as far north at least as Tempe and Gonnos.⁴ In 7.129.4 he writes: ἔστι γὰρ σεισμοῦ ἔργον, ὥς ἐμοὶ ἐφαίνετο εἶναι, ἡ διάστασις τῶν ὁρέων. Just before, he uses the phrase κἂν ἐκεῖνο ἰδὼν φαίη Ποσειδέωνα, which suggested personal observation to Macan, who usually minimized the element of inspection by the historian. And in the same passage he refers to Thessalian sources: αὐτοὶ μὲν νυν Θεσσαλοὶ φασι. In their *Commentary* on 7.129, How and Wells remark: "H. is at his best in such questions of geology and physical geography." Long ago, Leake wrote concerning Herodotos' account of Thessaly: "The words of Herodotus, descriptive of the junction of all the rivers, as well as his distinct mention of the lake Boebeis, seem to indicate that he had a better knowledge of the geography of Thessaly than any other author whose works have reached us."⁵

Before discussing the route, I should like to examine the opinions of modern scholars. Such opinions may be grouped into two classes: those of scholars who expressly examined Mount Olympos with the text of Herodotos in mind, and those written without mention of personal observation. Quotations from the latter group will be given first.

Macan: "Xerxes could never have rejected Tempe in favor of a pass by Gonnos, nor would such a route have led to or from 'Upper Macedonia.' Hdt. has fallen into a serious error and contradiction, over and above the absurdity of supposing that there was any better or safer pass from Macedonia into Thessaly than by Tempe. . . . It is more than possible that the Persian columns in 480 B.C. used all three routes into ancient Thessaly [1. Tempe, 2. Pass of Petra, 3. Pass of Volustana]; and if Xerxes marched still with the centre he may have crossed

⁴ See Jacoby, *s.v.* Herodotos, *RE* Suppl. II, col. 270.

⁵ *Travels in Northern Greece* 4 (London 1835) 514.

by Petra, and visited Tempe (if he did visit it) from Larisa."⁶

How-Wells: "On the whole it would seem almost certain that Xerxes must have used the easier passes of Volustana and Petra for his main force, though a detachment may have gone by the mountain path."⁷

J. L. Myres gives "the upper road" of Herodotus as running "from the coast road at Dium, westwards over the ridge north of Mount Olympus, into the Titaresius tributary of the Euripas; this joins the other road at Oloosson and so leads 'past Gonnos' because it is here that this route joins that by Tempe."⁸ This road is to be identified with the one going through the Petra pass.

H. D. Westlake: The Gonnos "path is in fact precipitous and could have been guarded without difficulty. Herodotus, who knows nothing of the Petra and Volustana passes, is here under a misconception. He seems to have . . . been informed of this track by Gonnus, which would remind him of the Anopaea path at Thermopylae. At the same time he would learn that Tempe could be turned by an upper road and would naturally assume that his informant had the Gonnus track in mind, whereas the latter was actually referring to other passes many miles to the west. In consequence of this error the historian brings the army of Xerxes into Thessaly by a route which was quite impracticable for such a host. Thus his own explanation of the Greek retreat contains a germ of truth in that Tempe was not the only gate of Thessaly, but it is vitiated by a topographical error."⁹

The following group of writers all had considerable firsthand acquaintance with the topography of Mount Olympos.

W. M. Leake: "Xerxes sent his host this way [by the pass of Petra] into Perrhaebia, after having employed a third of his army then encamped in Pieria, in preparing the road."¹⁰

⁶ *Herodotus, Books VII, VIII and IX* (London 1908) I, 164-65.
⁷ *Commentary on Herodotus* (Oxford 1912) II, 175.

⁸ *Herodotus* (Oxford 1953) 231. For other writers who believe that Xerxes came by the Petra pass, see Grote, *History of Greece*, new edition (London 1870) 4 p. 428; G. Rawlinson, *Herodotus* (London 1875) 4 p. 142, n. 5; W. Ruge in *RE*, s.v. Petra, col. 1167.

⁹ *JHS* 56 (1936) 19-20. G. Busolt, *Griechische Geschichte* 2 (Gotha 1895) 673 and E. Oberhummer (*RE* s.v. Olympos, col. 262) both state that Xerxes used the Volustana pass. G. B. Grundy in *The Great Persian War* (London 1901) does not discuss the route at all in the appropriate place in chapter VI.

L. Heuzey: "Il y a quelque obscurité dans Hérodote: il semble faire passer à Gonnos la route qui débouchait de la haute Perrhèbie dans la Thessalie. J'ai cherché s'il y avait un passage commode dans les montagnes de Kokkinopetra, au nord de Déreli; elles sont impraticables. La route direct qui descend en Thessalie a donc toujours été deux lieues plus à l'ouest, au Pas de Mélouna. Mais, comme les Grecs occupaient Tempé, Xerxès devait se détourner sur Gonnos: c'est ce qui explique l'expression peu rigoureuse de l'historien."¹¹

H. F. Tozer: "At this point [Gonnos], according to Herodotus, the route by which Xerxes entered Thessaly to the west of Olympus, debouched into the plain: but it had always seemed to me a difficulty that Gonnus lies so far eastward of that route, and this is only increased by being on the spot, where the ridge of Kondovuni is seen to intervene, lying directly in the way. The regular exit is by a pass farther to the west, now called the pass of Melouna; and the only explanation that I know of Herodotus' statement is that suggested by M. Heuzey, viz., that Xerxes had to turn aside in order to occupy Tempe, and that this is loosely described by the historian as entering the plain near Gonnus."¹²

F. Stählin: "Durch ihn (den Pass Volustana) zog Xerxes. Der Weg war damals noch so schlecht, dass ein Drittel des Heeres tagelang arbeiten musste, um ihn gangbar zu machen."¹³

There seems to be a general consensus of opinion that Xerxes came westward by the Volustana Pass or the Petra Pass, or both, and then southward through the Melouna Pass. On the other hand, there are scholars who have had the benefit of personal observation who have, in effect, doubted whether large armies could have used these same passes. Thus, Tozer denied that the Roman army in 169 B.C. used the Petra Pass: "No mention is made of

He contents himself with saying (p. 223): "Herodotus does not describe with any detail the course which the army followed in its advance southward [from Therme] until, at any rate, Thermopylai had been passed."

¹⁰ *Travels in Northern Greece* 3 (London 1835) 343.

¹¹ *Le Mont Olympe* (Paris 1860) 17-18. Cf. p. 150.

¹² *Researches in the Highlands of Turkey* (London 1869) 2, 61. Tozer called the western side of the valley of Dereli (Gonnus) Kondovuni. It may be noted here that Leake did not penetrate into the interior of the mountain; cf. Tozer, *ibid.* 374.

¹³ *Das hellenische Thessalien* (Stuttgart 1924) 18. On p. 8 Stählin states that Xerxes continued through the Melouna pass.

the occupation of the pass of Pythium, the modern Petra, close under the north-west angle of the mountain, but this was probably regarded as too narrow and too rugged to be attempted."¹⁴ In turn, A. J. B. Wace and M. S. Thompson pointed out difficulties about the use of the Melouna Pass: "The obvious road into it (Elason) from the rest of Thessaly is not by the Melouna pass, which is a mountain ridge made possible for traffic only by an artificial road, but up the Europos valley. . . . The fact that there are in this valley several Hellenic sites in contrast to only one on the Melouna route at Karatsholi clearly shows which was more used in classical times."¹⁵

To return to Herodotos' description of the route, we conclude that the way was not an easy open road, for one third of Xerxes' large force was required to clear the passage. We are seeking, then, not the traces of a well-traversed ancient road but a military way, not commonly used, presenting no major obstacles of terrain which would prevent a large army from passing.

We must proceed to a description of the four places Herodotos mentions in connection with Xerxes' route.

1. Gonnos. Herodotos gives the terminus of the route as Gonnos. The location of this ancient city of the Perrhaiboi in Thessaly is secure. Abundant archaeological (epigraphical, numismatic, etc.) evidence, which is collected by Stählin, *Das hellenische Thessalien* 33-36, with a diagram on p. 32, attests the position of the Hellenic city. A photograph of a section of the southwestern wall is given in our pl. 115, fig. 2. The position of the site is twenty miles (thirty-six kilometers) from Larisa, about one mile north of the Peneios river not far from the western entrance to the Vale of Tempe; the modern village of Dereli (or Gonnoi or Gonnos) lies about one mile to the northwest. The ancient city was built on three hills commanding the surrounding plain. Walls and foundations of shrines of various periods are still extant.

2. Perrhaibia. The way led through the land of the Perrhaiboi, who are known to have occupied the

mountainous Thessalian district between the upper Olympus and the Peneios river. Stählin gives the boundaries as the Peneios on the south, with Gonnos the southernmost city.¹⁶ On the east, the territory did not extend to the sea, but it shared boundaries with Pieria and the cities of Phila, Herakleion, and Dion. The northern boundary lay north of Lake Askynos and included the lower Olympus. To the west the limits took in the ancient city of Doliche and the modern town of Elason or Olosson. The higher or Upper Olympus, as well as the northeastern edge of the Lower Olympus including the area of Modern Karya, was not in Perrhaibia, but in Makedonia. The Petra pass, itself, was in Pieria (Makedonia); Pythion at the southern outlet of the pass was in Perrhaibia. For a convenient map of what Stählin regarded as the boundaries of Perrhaibia, see *RE s.v.* Thessalia, cols. 87-88.

3. Pieria is the strip of land between the mouths of the Peneios and the Haliakmon at the eastern foot of Olympus.¹⁷ It was bounded on the west by the contiguous district of the Thessalian Perrhaibia. Its chief cities included Dion, Methone, and Pydna. Livy refers to a considerable forest beyond Pydna, called "Pieria Silva."¹⁸

Relevant to the problem of Xerxes' route into Thessaly is the question of where the Persians might have crossed the Haliakmon and entered Pieria. Edson states that the ancient road from Thessaly, running northwards from the Vale of Tempe, went to Pella by way of Veroia.¹⁹ In this case, the Haliakmon must have been crossed not far from the mouth of the gorge which the river has carved between the Vermian and Pierian ranges. Edson cites as evidence the Makedonian itinerary contained in the *Liste Delphique des Théorodoques*, published in *BCH* 45 (1921) 17.²⁰ But the Delphian *theoroi* were visiting the chief towns and were not necessarily following the coastal route proper.²¹ In the later parchment map known as the Peutingerian table, the route from Pella to Larisa went through Veroia, Hatera (presumably Katerini),²² Dion, and Tempe. Both Struck and Casson have presupposed that a

¹⁴ *op.cit.* (supra, n. 13) 374-75.

¹⁵ *Prehistoric Thessaly* (Cambridge 1912) 7.

¹⁶ Stählin, *op.cit.* (supra, n. 13) 37.

¹⁷ Ancient references which help to define the district are Herodotos 7.112; Thucydides 2.99; Strabo 7.331, fr. 22; 9.410; Livy 44.9. For literature on the subject of Pieria, see Geyer, *RE s.v.* Makedonia, col. 650.

¹⁸ 44-43.

¹⁹ *HSCP* 45 (1934) 232. This is also the opinion of Wood-

head (*CQ* 46 [1952] 58). In *JHS* 69 (1949) 85, Wade-Gery supposes that the only practicable crossing of the Haliakmon was at Veroia.

²⁰ The itinerary is Homolion-Herakleion-Leibethroe-Dion-Pydna-Veroia-Mieza-Edessa-Pella.

²¹ This observation was made by Edson himself in *CP* 42 (1947) 97, note 70.

²² Cf. B. D. Meritt, H. T. Wade-Gery and M. F. McGregor, *Athenian Tribute Lists I* (Cambridge, Mass., 1939) 467.

considerable change must have taken place in the nature of the plain since the time of Herodotos.²³ Although this change has been in the direction of the gradual silting up of the Thermaic Gulf, the Haliakmon must still have had some distance to flow after it emerged from the gorge because it was joined at some point by the Lydias river.²⁴ There clearly was a crossing of the Haliakmon near Verroia. That there was a second crossing in the plain at a position nearer the river's mouth would seem not impossible, but we cannot be at all sure, and in the calculations below we have based our figures on the assumption of a western crossing.

4. Makedonia. According to S. Casson,²⁵ the Makedonians, or Agreadai as they were called, advanced from Thessaly into the plains at the foot of Mount Olympos. They subdued various tribes including the Pierians as they extended their dominion.²⁶ Their advance from Thessaly is dated by Casson about 850-750 B.C. Herodotos gives the boundary line between Bottiaia and Makedon as the confluence of the Lydias and Haliakmon rivers: *μέχρι Λυδιδεῶ τε ποταμοῦ καὶ Ἀλιάκμονος, οἱ οὐρίζουσι γῆν τὴν Βοττιαΐδα τε καὶ Μακεδονίδα, ἐς τὸντὸ ρέεθρον τὸ ὕδωρ συμμίσγοντες.*²⁷ This presupposes a considerable difference in the nature of the plain from what it is today; but there is abundant evidence concerning the silting up of the Thermaic Gulf.²⁸ Thus, Pella, the Hellenistic capital of Makedonia, was situated beside the lake of the river Lydias which was navigable from the sea,²⁹ but today is about 30 kilometers inland. In alluvial plains, changes in the courses of rivers are frequent. Presumably, in the time of Herodotos, the boundary of Makedonia continued westward along the Lydias river to modern Edessa (ancient Aegae).³⁰ But for us the problem remains as to what Herodotos meant by the phrase (7.173) *κατὰ τὴν ἄνω Μακεδονίην*, and no suggestion can be made about this phrase

until we examine the way leading north from Gonnos. A sketch map showing this area is given in pl. 115, fig. 3.

Starting at modern Dereli or Gonnos a carriage road ascends the lower Olympos through the valley of the Two Trees. For the first four or five kilometers, the ascent is gradual, rising from an elevation of 33 meters above sea level in the plain of Dereli to about 300 meters at the site of Tsurba Mandria. Here Arvanitopoulos conducted a brief excavation in 1910, after the withdrawal of the Turks.³¹ We observed beside the road one of the grave stelai seen by Arvanitopoulos. There is good evidence for a settlement of the classical period in this part of the valley, and the name of Gonnokondylos is associated with the site by Arvanitopoulos and Stählin.³² The carriage road now leaves the rhevma of the Duo Dendra and ascends past a nineteenth century fort to a col with elevation of about 1100 meters above sea level. From the summit of the peak which lies just to the northwest of the pass, at an elevation of 1188 meters, there is a splendid view of the drained basin of the Lake of Nezero imbedded in a cradle of mountains. A panorama taken from this point is shown in pl. 116, fig. 4. The pointed top of Mt. Metamorphosis is to the right, the peaks of the upper Olympos with clouds above to the left. In Tozer's day, the circumference of the lake, which had no visible means of escape for its waters, was estimated by him as some five miles.³³ The valley of the lake is about three miles in diameter and nearly circular. To the east of height 1188 rises Mount Metamorphosis, the highest point in the Lower Olympos (1590 m.). At the northern end of the valley there are three mountains of considerable elevation, and still further to the north can be seen the peaks of the great upper Olympos range. Although the modern carriage road passes to the east of height 1188, a way to the west of this

²³ See S. Casson, *Macedonia, Thrace and Illyria* (Oxford 1926) 14-16. According to A. Zimmern (*The Greek Commonwealth* [Oxford 1931] 42), the silting up of Mediterranean gulfs accompanied the denudation which followed on the deforestation begun on a large scale after the Slav barbarian invasions of the fifth century A.D. E. Kirsten and W. Kraiker (*Griechenlandkunde* [Heidelberg 1955] 383) have indicated on their map what they regard as the coast line of the Thermaic Gulf for various periods.

²⁴ Herodotos 7.127.

²⁵ *Macedonia, Thrace and Illyria* (Oxford 1926) 161; and *BSA* 24 (1919-21) 30.

²⁶ Thucydides 2.99.

²⁷ 7.127. Macan believes that Herodotos is here in error; but the authorities on Makedonian topography, cited in the note

below, seem prepared to accept this statement.

²⁸ H. Kiepert, *Formae Orbis Antiqui* (Berlin 1894) XVI 3; A. Struck, *Makedonischen Fahrten* 2 (Sarajevo 1908) 19; Casson, *op.cit.* (supra, n.26) 14-16; and Geyer, *RE s.v.* Makedonia, col. 649.

²⁹ Livy 44.46; Strabo 7, fr. 20.

³⁰ Geyer (*RE s.v.* Makedonia, 649-650) is in error in attributing to Herodotos the statement that the Haliakmon river was the boundary of Makedonia. All that Herodotos says is that the stretch of the two rivers, Lydias and Haliakmon, when united, comprised the border. The statement must be taken to refer only to the northeastern border.

³¹ *Praktika* (1911) 320-23. Cf. *ArchEph* (1915) 21ff.

³² Livy 39.25.6.

³³ *Researches in the Highlands of Turkey* 2, 40.

peak would seem to afford easier passage. The height of the western pass is 1038 m. In any case, once one has attained the level of the drained lake, passage across this upper plateau of the lower Olympus is easy and without obstacles.

A little distance north of the basin is situated the village of Nezero, a name reportedly derived from the Bulgarian word for a lake. The village, also sometimes called Kallipeuke, lies in an opening between the heights of Mount Analepsis (1365 m.) and Mount Metamorphosis (1590 m.). Plate 117, fig. 5, taken from the summit of Mount Metamorphosis, shows the town of Nezero with Mount Analepsis to the left. An easy trail from the village leads past a hill bearing the modern church of Agios Athanasios to a col which on the most detailed map of the area available to me—the Sheet (Larissa) 1:75,000 prepared by A. Messalas in 1909—is marked as an elevation of 1071 m. The village of Nezero itself is at an elevation of 1049 m. Almost due west of the col on a peak which has an elevation of 1239 m. can be seen today the considerable remains of a Turkish fort. The path extends northeastwards down the slopes of the lower Olympus past the place called Gephyra Karavida, which today is a lumber camp, through the Kallipeuke forest and finally debouches on the plain not far from the modern village of Skotina. Plate 117, fig. 6, taken from near the summit of Mount Metamorphosis, shows in the middle distance the path with the so-called Gephyra about center. This side of Olympus is richly clothed with foliage in contrast with the stretch from Gonnos to Nezero where only shrubs cling to the rocks. The easternmost part of the trail I have not traversed in its entirety, but I have studied through binoculars this area of the Kallipeuke forest from positions on the northern side of the Sus (Zeliána), on the plain of Skotina, and on the heights north of Nezero. There appear to be no steep precipices or impassable gorges. From the standpoint of the geography, the way from Gonnos to the Skotina plain is a feasible military route.

Moreover, when one considers the distances involved, the advantages of the Nezero route over ways through the Petra and Servia passes are apparent.

The following tables give distances from Veroia, a modern town 75 kilometers west of Thessalonike and a junction point on the highway, to Gonnos.

These distances except where indicated are taken from modern highway maps.

A. Modern highway by way of Servia, or Volustana, Pass

	Kilometers
Veroia—Kozani	61
Kozani—Larisa	138
Larisa—Gonnos	25
Total	224

B. Modern road by way of Petra Pass

Veroia—Katerini (secondary road)	55
Katerini—Elason	60
Elason—Larisa	60
Larisa—Gonnos	25
Total	200

C. Nezero Route

Veroia—Litochoron (through Katerini)	80
Litochoron—Nezero	25 est.
Nezero—Gonnos	19
Total	124 est.

Most scholars seem to assume that Xerxes did in fact go to Gonnos; but if one wishes to regard Larisa as the terminus and to subtract the distance from Larisa to Gonnos from Route A and B and add it to Route C, the advantage of the latter with respect to length is still apparent.

More importantly, not only is it shorter, but the major portion of the third route is through the Katerini plain. Route A, for example, is almost like going around three sides of a square, and involves going over Mount Vermion and the Pierian mountains, as well as a western outrunner of Olympus; it is hard to imagine a more difficult passage in all of mountainous Greece. The pass which carries the modern road is at an altitude of 1360 meters. The greater part of the Nezero route, on the other hand, is through the Katerini plain, and then over one shoulder of Olympus, in what is almost a straight line between Katerini and Gonnos. From the standpoint of logistics, most students of Xerxes' invasion have held that it was necessary for Xerxes to keep the military and naval forces as close together as possible, and the Nezero route stays much closer to the sea.⁸⁴ The crowning point, however, in the argu-

⁸⁴ Thus, How states (in How and Wells, *Commentary on Herodotus* 2.369): "The elaborate care taken in bridge building,

in making roads and canals, in storing provisions, above all the steady advance of huge forces without any sign of failure

ment that the Nezero route was a feasible military way is the fact, which I first learned from the natives of Nezero, sitting in a kafeneion in the main square, that this was actually the route used by the Germans in April 1941, when they bypassed New Zealand troops which were dug in at Platamon and the Vale of Tempe. The natives of Nezero described how a German battalion, checked before Platamon, had in mid-April ascended from the plain near Skotina past the Gephyra to Nezero and the Lake of Nezero and then descended to Dereli. When I returned to Athens from this particular trip to Mount Olympos, I visited the American army attaché for the purpose of checking this native story. Several officers in the embassy were familiar with the German route, and told me that this was one of two places in the German campaign in the spring of 1941 where the German command surprised the Greek defenders.³⁵ The movement of the German detachment is described in the official publication of the Department of the Army.³⁶ The German Sixth Mountain Division marched across the lower Olympos, through Nezero, and emerged at Gonnos on the western exit of the Peneios Gorge. On the morning of 18 April they annihilated a New Zealand battalion. This constitutes a practical demonstration of the superiority of the Nezero route and seems to be the solution of our search for a military way, not commonly used, which would present no major obstacles of terrain.

But there might seem to be one impediment to this route. Herodotos says that the road began in upper Makedonia, and the Katerini plain is gen-

erally regarded by modern scholars as being in lower Makedonia. But, our concern is not with what later geographers thought, but with what Herodotos, who, as we have seen above, almost surely visited Gonnos and the Vale of Tempe, considered the dividing line between upper and lower Makedonia. Needless to say, upper and lower Makedonia need not be equal halves, just as upper and lower New York state are not equal halves. As one travels from the mouth of the Peneios river north to Gida or the mouth of the Haliakmon, one notes that there is one, and only one, eastern outrunner of Mount Olympos which extends to the sea. This is the ridge on which are located the ruined medieval fortifications of Platamon, the site of ancient Herakleion.³⁷ This shoulder of Olympos divides the northern coastal plain from the southern. The Venetian fortress rests on a steep bluff, which falls away abruptly to the sea. It would seem not unreasonable—and I should add that the suggestion was made to me by Professor Vanderpool—that the southern part, lying immediately to the north of the Peneios, was lower Makedonia, while the Katerini plain, lying north of Platamon, was upper Makedonia. The lower Makedonian plain was due east of the lower Olympos. Xerxes' route, then, would have been in upper Makedonia.

In conclusion, the route assigned to Xerxes by Herodotos is a much more feasible military way than any of the possible alternatives. The topographical accuracy of the historian need never have been called into question.

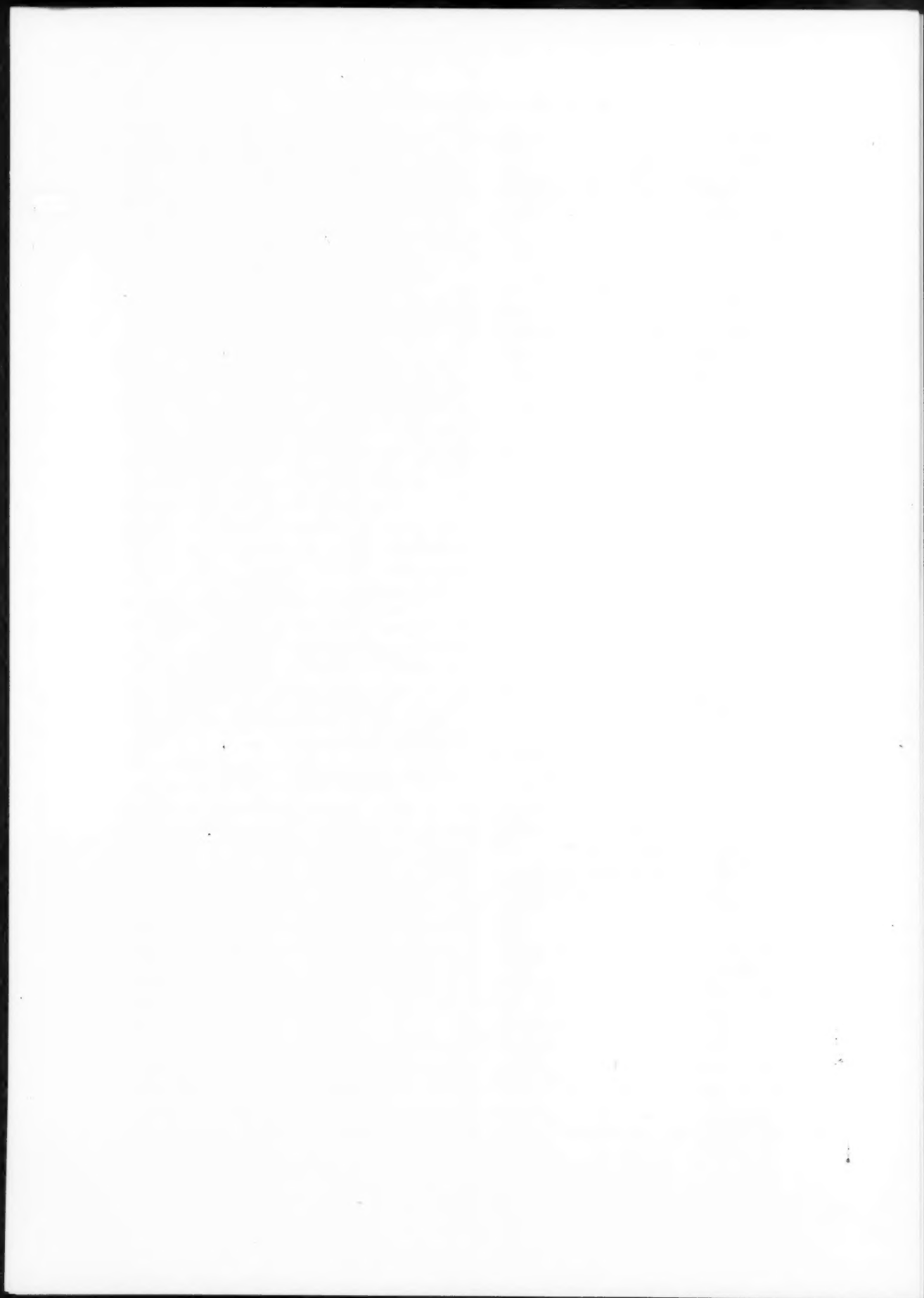
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in supplies, shows careful organization and competent leading. But the Persians suffered from too rigid adherence to the leading idea of their plan of campaign, the close and direct cooperation of their land and sea forces."

³⁵ The second place of surprise was in the main thrust into central Greece, the German drive from Kozani to Kalabaka by way of Grevena, which was accomplished by April 20.

³⁶ *The German Campaigns in the Balkans*. Department of Army Pamphlet, No. 20-260 (November 1953) 98-100. A German tank burning during the attack on the ridge at Platamon is illustrated on p. 97.

³⁷ For the identification of Herakleion, see, in particular, C. Edson, *CP* 42 (1947) 96-98.



News Letter from Rome¹

A. W. VAN BUREN

PLATES 118-125

DR. Gianfilippo Carettoni, Soprintendente for PALATINE AND ROMAN FORUM, kindly communicates a report on the activities of that Soprintendenza:

On the Palatine, the excavation and restoration of the structure in ashlar between the *Scalae Caci* and the so-called Temple of Apollo has led to the discovery of large pieces of stuccoed vaulting showing geometrical designs. In the course of the restoration of the Republican house to the southwest of the House of Livia the painted wall of one of the rooms has come to light, decorated like the rest of the house in an architectural style without figures; the wall surface of another room has been restored and put on exhibition in the Antiquarium of the Palatine.

In the Roman Forum, investigations have been initiated beneath the imperial pavement of the Basilica Iulia; for the present these are limited to the eastern end of the central nave. Already in this first phase of the excavation results of considerable interest have been obtained: two foundations in Grotta Oscura blocks, flanking a large sewer of similar structure, may have belonged to a public edifice which is known to have stood in the neighborhood, the Basilica Sempronia. These remains in fact hark back to the Republican age, and their structure is quite similar to that of the Basilica Aemilia of the Republican period. Remains of private buildings of a still earlier period, in blocks of peperino and cappellaccio, have been recognized beneath

the Republican edifice. The excavation has been supplemented by a stratigraphic test, while the systematic examination of the fill beneath the imperial pavement of the Basilica Iulia has yielded interesting material for study, including two archaic antefixes representing a satyr's head and the type of the Juno of Lanuvium.

In the zone of the Rostra and the Volcanal, Professor Kähler of the University of Cologne has conducted an accurate survey, in collaboration with the Soprintendenza of the Forum, with a view to a fresh investigation of the monuments of that area.

In the city of Rome as a whole, the outstanding event of the year has been the appearance of the official publication of the marble plan of the ancient city, which has been reviewed elsewhere in *AJA*; its issue was immediately followed by Gatti's announcement of a by-product of the undertaking, the rearrangement of the fragments concerning the Circus Flaminius and the Theater of Balbus, necessitating a drastic revision of views as to the southern zone of the Campus Martius.

Across the Tiber, the *excubitorium* of the VII Cohort of Vigiles has now passed under the jurisdiction of the archaeological service of the Comune, which contemplates its complete investigation and systematization.

That enormous undertaking, the clearing of the Domus Aurea of Nero, proceeds deliberately and steadily according to plan; its interest appears in

¹ The most recent installment of these reports appeared in *AJA* 64 (1960) 359-64, pls. 102-107.

For material generously communicated on the present occasion, with permission to publish, sincere thanks are due to Messrs. R. Bartocchini, J. Bayet, G. Caputo, G. Carettoni, A. de Francis, N. Degrassi, N. Lamboglia, P. Orlandini, C. Pietrangeli, G. Rizza, P. C. Sestieri.

Several important undertakings which were briefly reported in News Letters of former years have now been fully published: the temples on the Arx of Cosa, in *MAAR* 26 (1960); Santa Severa (Pyrgi) and Halaesa, in *NSc* (1959) 143-263, 293-349; San Giovenale, in the richly illustrated Swedish volume (by Axel Boëthius et al.), *San Giovenale. Etruskerna—Landet och Folket* (Allhems Förlag 1960). Palinarus has been published by the German Institute. F. Magi's fully documented account of the restoration of the Laocoon group has appeared as the first fascicule of *MemPontAcc* 9 (1960). Einar Gjerstad's series

of volumes *Early Rome* is steadily progressing. Dr. A. Di Vita's five years of researches in the area of Ragusa have been summarized by him in *BdA* (1959) 347-63.

The developments at Spina are already known in general from partial publications, especially N. Alfieri, P. E. Arias, photographs by M. Hirmer, *Spina* (Florence, Sansoni, 1958); but the projected full official presentation of the finds has now started with S. Aurigemma, *La Necropoli di Spina in Valle Trebbia, Parte Prima* (Rome, "L'Erma" di Bretschneider, 1960). The unusual method adopted in this volume for recording certain details is described on p. x.

The detailed reports in *FA* are in general a year later in appearing than these News Letters. Dr. Bernard Andreae's account of Northern and Central Italy in *AA* (1959) covers the years 1949-1959.

² *AJA* 65 (1961) 326f.

Axel Boëthius's recent volume to which it gives the name.⁸

Interest now shifts to the northern part of the Campus Martius, where the study of the monuments has entered a new phase with the appearance of Dr. Stefan Weinstock's fully documented and convincingly reasoned article⁴ demonstrating that the incomparable monument of Augustan art which for the greater part of a century has passed under the name of *Ara Pacis Augustae* exhibits a symbolism incompatible with dedication to Pax, and hence must for the time being remain nameless. Its remains were re-erected in the year 1939 at a point close to the Tiber, but neither the location nor the enclosing frame of concrete and glass has won general approval. The question is now being raised in responsible quarters whether the time has not arrived for a reconsideration of the problem of a final resting-place for this altar and its enclosing wall, which will always be accepted as a worthy expression of the patriotic ideals of the Augustan Age, regardless of attribution to this or that specific monument.

The present is an important moment for the study of the Palaeochristian monuments of Rome and vicinity; we can mention the discoveries of Constantinian and earlier structures beneath the Lateran Basilica, and the finding of what appears to be a Constantinian basilica at the Villa of the Gordiani at the third mile of the Via Praenestina. In the Vatican City investigations have continued in the area of the Circus of Nero, and have confirmed a fixed point, the base of the obelisk.⁵

The threatened deterioration of ancient monuments exposed to the atmosphere continues to engage the serious attention of the competent authorities, who are at present taking steps to assure the protection of the Porticus of Octavia, the Obelisk of the Lateran, and the "Temple of Hadrian" (the present Stock Exchange).

⁸ Axel Boëthius, *The Golden House of Nero. Some Aspects of Roman Architecture* (Univ. of Michigan Press 1960). B. is quite properly conservative with regard to certain of the astrological views which have been advanced as to some features of the ensemble.

⁴ JRS 50 (1960) 44-58, pls. v-ix.

⁵ Castagnoli and Guarducci, in *RendPontAcc* 32 (1960) 97-132.

⁶ Maria Panvini Rosati Cotellessa's richly illustrated article in the official journal, *Capitolium*, Oct. 1960. Owing to its having been formed largely through the absorption of notable collections which themselves had embodied the selective activities of their former owners, this cabinet is strong in rare, artistically

Progress can be reported in the development of the Roman museums. On April 21, 1960, the Birthday of Rome, the south wing of the Villa Giulia was reopened; it contains the objects from various early sites in Latium-Satricum etc. On Nov. 12, 1960, in connection with the *IV Settimana dei Musei Italiani*, the reorganized Medagliere Capitolino was exhibited⁶ (pl. 118, figs. 1-2); and the systematization of the coin cabinet of the Museo Nazionale Romano at the Baths of Diocletian was commemorated by a display of photographs of a selection from its treasures.

The communal museums on the Capitoline, as is well known, are rich in monuments of not only artistic but historical interest as well. A notable addition, for the period of Tiberius and for relations with Gaul, consists in two marble table-supports, *trapezophori* (pl. 119, fig. 3), acquired on the antiquity market and reported by the Director, Professor Carlo Pietrangeli, a year ago.⁷ They had been found about 1928 in the vicinity of the Via Ostiensis, and then published, without illustrations, by Gioacchino Mancini.⁸ Their sculptural decoration includes *protomae* of Cupids, the wings of birds, and various floral motifs; but their chief claim to interest lies in the inscription carved on one of them: *L. Cassio Longino cos. / XV vir(o) sacris faciundis / legato pro pr. Ti. Caesaris Augusti / Sextani Arelatenses / patrono*. This personage was consul in A.D. 30, and is known also in history as the husband of Drusilla, daughter of Germanicus. He here appears as *patronus* of the citizens of Arles; hence his province as *legatus pro praetore* under Tiberius was probably Gallia Narbonensis.⁹

The finds at the HARBOR OF CLAUDIUS, reported a year ago,¹⁰ are now available in photographs.¹¹

At the meeting of Dec. 29, 1960, of the Pontificia Accademia Romana di Archeologia, Professor Ferdinando Castagnoli presented an important

outstanding, superbly preserved, and historically significant pieces. The generosity of Dr. Pietrangeli enables us to present, pl. 118, figs. 1-2, enlarged photographs of two remarkable *aurei*—the reverse of an issue of the moneyer M. Durmius of 19 B.C. (obv., head of Augustus), showing a crab clutching a butterfly, and a portrait head of Trebonianus Gallus.

⁷ *Boll. dei Musei Comunali di Roma* 6 (1959), 51. Photograph kindly communicated by Professor Pietrangeli.

⁸ *BullComm* (1928) 318-20, cf. *AE* (1930) no. 70.

⁹ *PIR*, ed. altera, pars II, no. 503.

¹⁰ *AJA* 64 (1960) 360.

¹¹ *ILN* no. 6327 (Nov. 5, 1960) 801.

communication as to the finding at Lavinium of still another sanctuary with rich equipment.

At Pozzuoli, the spread of the present city over the higher ground in the neighborhood of the better preserved of the two amphitheatres is leading to the discovery of various remains of ancient Puteoli. Special interest attaches to a find of February of this year: the discovery of a series of five intercommunicating storerooms for the grain which formed one of the chief commodities passing through that commercial port under the empire.¹²

A POMPEIAN VILLA has yielded a group of over one hundred *tabulae ceratae*, the study of which is in the capable hands of Dr. Onorato. Readers of former reports in this series are conscious of the large part which was played in them by the news from the Soprintendenza di Salerno, generously contributed through the years by the Soprintendente, Professor Pellegrino Claudio Sestieri. Interest has centered on Paestum and Velia. This period of organized exploration and excavation has been memorable for many reasons, and archaeological science is greatly indebted to Professor Sestieri. It is with a feeling of sadness that, together with his report for 1960 generously communicated for the present News Letter, there comes the information that this campaign was to be the last of the series under his administration; together with congratulations on the cycle of undertakings so well accomplished, he may be assured of the best wishes of his colleagues in his new and even more responsible post in charge of the Soprintendenza di Roma V at the Museo Preistorico Etnografico "Luigi Pigorini" in the Collegio Romano.

His present report opens with the news of the enlargement of the Museum of Paestum which, though established only a few years ago, had been increasingly shown to be inadequate for the proper housing and display of the overwhelmingly rich material from a series of exceptionally successful campaigns in the territory concerned.¹³

The new structure, which is already approaching completion, stands along the highway to the north of the familiar building, with a portico fronting on the street; its halls and galleries surround an open air court. All the old museum is to be devoted to the material from the great sanctuary at the mouth of the river Silarus, both the metopes and the votive objects from the deposits and the *bothroi*.

In a hall which is being constructed beside the old museum, and which will connect it with the new edifice, those metopes are to be installed which have been found in the more recent campaigns of excavation. The new museum, on the other hand, is to be devoted entirely to Paestum itself and the neighboring area, and will render it possible to follow the various chronological phases of the zone, from the prehistoric settlements to the foundation of the Greek Poseidonia, down to its transformation into the Lucanian Paistom and then the Roman Paestum. This will be accomplished through the exhibit of materials found in hoards, burial areas, votive deposits, and other contexts. The prehistoric period will be presented in its various phases, from the palaeolithic to the First Age of Metals, and prominence will be accorded to the aeneolithic tombs of the Gaudio and to those of the Iron Age and the Villanovan *facies* of Capodifiume. The Greek period will be represented in this section of the necropolises by the archaic ceramics, Ionic and Corinthian, and by Attic bf. and rf. wares. For the Lucanian age, in addition to the exhibit of the burial equipments, it will at last be possible to constitute a veritable gallery of wall paintings from tombs, so that the development of this art can be followed from its first manifestations, in which it is still closely tied to Greek prototypes, to those more recent, in which the Italic character increasingly prevails.

The votive deposits also will receive a fitting systematization, which will permit of not only chronological but typological grouping. The large groups will be rationally arranged, such as the magnificent bronzes which were found in the underground sanctuary and the large terracottas of the Poseidoniate school of coroplastic. The western gallery is to be devoted to the architectural fragments, among which great importance is assumed by the fictile decoration, almost complete—pediments and lateral geisa—of a small archaic temple the remains of which are visible near the south side of the temple "of Ceres." This will be followed, finally, by the documentation of Roman Paestum, consisting of the metopes of the Italic temple and numerous works of sculpture.

The famous city walls have required attention, and four of the towers have been reconditioned and partially restored. A more ponderous undertaking

museo di Paestum [1955], in the official series.

¹² The Roman daily, *Il Tempo*, Febr. 18, 1961.

¹³ The familiar installation appears in Sestieri's guide, *Il nuovo*

has been the partial excavation of the amphitheater, situated near the center of the city. The lower tiers were supported on a foundation of stone and brick, and the upper part of the mass is of square blocks of limestone. The whole was surrounded by a series of arches supported on pillars, both these elements being in brick, with marble thresholds. In front of the pillars was a row of columns, of which many bases remain, together with several drums and some composite capitals. There were four entrances, one for each point of the compass: single arches to north and south, triple arches to east and west. Of the cavea itself, only a few tiers are preserved, but its outline is perfectly clear. At its start, it sets against a passageway roofed with barrel vaulting, which encircled all the arena except where it was interrupted at the entrances. Of these latter, those to north and south were surmounted by a sort of box, of which some remains are preserved.¹⁴

Attention has been devoted afresh to VELIA, where the Signora Dottoressa Maria Sestieri Bertarelli has been conducting a series of undertakings.¹⁵ She has devoted her attention to the eighteen miniature bronze figures of Romans and barbarians in combat which were found some years ago¹⁶ in a catch-basin of the water-channel which passed beneath the agora; and she has been able, partly by comparison with similar objects and partly by careful observation of the points for attachment, to show that these constituted the adornment of a horse's belt, to reconstruct the design, and to fix the individual pieces in position upon a plastic ground. The group centers about the figures of the Emperor and his attendant who is presenting his helmet to him. Similar figurines have been found at Herculaneum, and it is now possible to give the date as Julio-Claudian.

The excavations in the lower ground on the seaward side, at the city gate, begun some years ago,¹⁷ have now been carried further, with the clearing of a stretch of the wall, running north and south, with its towers, one of them flanked by a paved street. The cryptoporticus inside the city wall which was mentioned in a former report has now been almost entirely cleared, and proves to be of exceptional interest. It had been covered by barrel vaulting with window openings, and large niches at the middle

of its inner sides; a small stretch of its mosaic pavement remains in place. At intervals along the walls there are low relieving arches of parallelepipedal blocks. The four sides of this cryptoporticus enclose a terrace, the surface of which, approached on the east by a combination of stairs and ramp, is bordered by a concrete water channel: it is probable that it was used as a sort of "hanging garden," presumably planted with trees.

This cryptoporticus cannot have belonged to a private dwelling: various pieces of sculpture have come to light, both on the terrace and in the northern corridor, three of which show togate figures while one is female. Moreover, two headless herms have been found, and a number of marble heads. Two of the latter are portraits crowned with wreaths (pl. 120, fig. 4), and one of these appears certainly to have belonged to one of the statues of *togati*, on which there is an inscription giving some details: "Oulis son of Ariston, of Velia, physician, head of the school, in the year so-and-so." The two herms bear similar inscriptions, with the same enigmatic personal name but without the name of the city. Hence it is highly probable that both the garden and its enclosing cryptoporticus formed part of the establishment of an association of physicians. Both the building and its contents can be dated in the first century B.C., and it is to the same period that a beautiful portrait head of a woman, lacking the lower part of the face, is assigned. Of the other heads, two are Roman portraits and appear to represent Augustus and Livia in their youth; others are copies from Greek originals, including the portrait of Menander.

To the north of the cryptoporticus, and separated from it by the street leading to the sea-gate, lies a quarter of the city characterized by houses of the Roman period, those at a high level descending in date to the Middle Ages. A large bath building is in process of excavation, and is datable in the third century of our era. Alongside it, to the south, below the level of the Roman street, a fine stretch of a Greek street has come to light.

In the upper part of this zone of the city, the excavation of the agora has been completed.¹⁸ This proves to have been an open space set at the inner end of a small valley, and bounded on three sides

¹⁴ Some of these arrangements have analogies in the amphitheater of Pompeii.

¹⁵ For previous campaigns, see *AJA* 61 (1957) 378-79 with references to earlier reports; Sestieri in *Archaeology* 10 (1957)

2-10.

¹⁶ *AJA* 57 (1953) 215; Sestieri in *Archaeology* 10 (1957) 6-7, 10.

¹⁷ *AJA* 59 (1955) 307.

¹⁸ *AJA* 58 (1954) 326.

by a wall; on its east side it has a portico and a fountain.

The task of rehabilitating the sumptuous Roman villa at MINORI¹⁰ is approaching completion. The frescoed wall surfaces detached from this and the neighboring villas have been installed in a room constructed for the purpose at an upper level; and its construction led to the finding of remains of *suspensurae* which must have supported a pavement of large tiles, in all probability the remains of a *tepidarium*. This however could hardly have belonged to the villa as already known, for the villa was provided with a large and complete bathing establishment at ground level. It appears logical to explain the newly discovered bath quarters as due to a fresh occupation of the place after the deposit of ashes from the eruption of Vesuvius of A.D. 79.

At the village of SCAFATI, some 2 km. inland from Pompeii, digging for the foundations of a new house revealed the remains of a Roman dwelling which had been buried in that same eruption of A.D. 79. The Dottoressa Sestieri took advantage of the circumstances to explore the whole area, thus bringing to light the surviving features of the ancient house, including several walls with surfaces decorated in the Third Pompeian Style; these have now been lifted, together with a small lararium in the form of a semicircular niche. In a sort of coach-house at the back part of the dwelling, the remains were found of a sumptuous coach, *carruca dormitoria* (Scaevola *ap. Dig.* 34, 2, 13). It was a spacious vehicle with four wheels m. 1.20 in diameter, its body having bronze ornaments, including a statuette of a *putto* and two small herms; its roof, which must have been of leather, was supported by means of an iron framework. At present, March 1961, the metallic elements and those slight bits of wood which it proved possible to retrieve are undergoing restoration.

A new name on the archaeological map is PONTICAGNANO, a village some 10 km. distant from Salerno on the national highway for Battipaglia. Here, at the new Piazza G. Sabato, a vast necropolis has been discovered, extending in time from the First Age of Iron to the fourth century B.C., and in space observing what may be termed a horizontal stratification: the earliest burials are close to the present street, and the burials become later as one proceeds further south.

A second excavation, on a street parallel to the

national highway, on the Rossomando estate, has yielded results of the very greatest interest: some incineration burials of Villanovan *facies* have been found, in the form of mounds made of river pebbles, and containing the biconical cinerary urn, frequently with a cover in the form of a cap helmet. The vases show an incised or impressed decoration, sometimes extremely accurate and intricate, with meanders, squares, triangles and circles. The bronze objects include a trapezoidal razor, and a *fibula ad arco serpeggiante con staffa a nastro spiraliforme*, the latter forming a disc.

In the zone of the Piazza Sabato, on the other hand, the burials observe the rite of inhumation, in an earth trench, and present an Orientalizing aspect. The impasto is accompanied by bucchero, together with some fragments of Protocorinthian. Some of the impasto vases are remarkable for shape and dimensions, one of them, which may be defined as a fruit-stand with tall base, being decorated on the rim with two small figures of horses of a geometrical type, and at the sides with a tall arched handle. There are also some large *ollae* with circular spout, having a wide horizontal brim, and decorated with bulbs and deep and broad incisions. Among the accessory material there are several large *fibulae a navicella*, two small fibulae in the form of geometric horses, and two scarabs of glass paste of Phoenician workmanship, datable at the beginning of the seventh century B.C.

The tombs of the fourth century are similar to those of the Lucanian age at Paestum, i.e. a *cassa*, formed of four slabs of limestone and covered horizontally by a fifth slab. The burial equipment also is not dissimilar to that of the Paestan tombs: in fact some vases, including a series of three bell-craters upon which, in various attitudes, Dionysus and Silenus are represented, are of Paestan fabric. Of the same fabric, and surely attributable to Asteas, is a fourth bell-crater with a Phrygic subject, the personages on which, a citharist and an old man, are labelled by their Greek names, Phrynis and Pyronides.

Dr. Alfonso de Franciscis, Soprintendente for (modern) Calabria, continues his kindness of former years in supplying information from that important sector of Magna Graecia. His first item will interest numismatists: at SAMBIASE, in the Province of Catanzaro, a hoard has been found consisting of 43 incuse staters of Sybaris (pl. 118, fig. 5) and

¹⁰ AJA 61 (1957) 376-77.

one of Corinth, together with a bar of silver weighing 57.70 gms. The zone in question lies perhaps in the territory of ancient Terina. The hoard has been entered in the coin cabinet of the Museo Nazionale of Reggio Calabria.

At the sanctuary of Hera Lacinia in the territory of CROTON, the undertaking begun in 1955²⁰ has been resumed, with further clearing and repairs at the entrance gateway and the two edifices already discovered close by. Of these latter, the one to the left seems to have had a central court, surrounded by various rooms; on its exterior is a long portico with stone columns faced with stucco. The building on the right consists of two series of rooms with a corridor between them.

Attention has again been devoted to the walls of LOCRI, their further clearing and partial restoration; this led to incidental finds of sherds and other clay objects of the archaic period at the Torre Marzano and a small *stips votiva* including various clay statuettes at the Castellace bastion.

Previous reports included²¹ the mention of a unique discovery which now can be reported with greater precision, thanks to Dr. de Franciscis's communication of the results of his careful study: at a short distance from the ancient theater of Locri, a chance discovery brought to light a cylindrical stone receptacle containing a group of bronze tablets with Greek inscriptions datable about the beginning of the third century B.C.: deliberations of the local administration of that time authorizing precise sums for expenditures on behalf of specific undertakings, such as work upon the city wall, payments of debts contracted, etc. The tablets thus inscribed cast a new light on the economic and political history of Locri, on the civic organization, the calendar, weights and measures, prices and products of the soil, as well as on the linguistics and nomenclature of Locri in that period.

At REGGIO CALABRIA, a start has been made with the exploration of an area on Via Torriane, in the zone which in the previous century had yielded abundant archaic votive material. Up to now there has come to light the foundation of a small temple with cella and pronaos, constructed of tufa blocks and other pieces of stone, especially river pebbles. In the earth, abundant fictile material, miniature vases, female masks, seated divinities, fragments of Gorgoneion antefixes; the *facies* of the discoveries

is characteristic of the culture of Regium at the middle of the sixth century B.C.

The ring from VERBICARO SCALO, or rather GRISOLIA, bearing a representation of Aphrodite holding a set of scales in the pans of which two Erotes are balanced, briefly mentioned in the News Letter for 1956,²² has now received adequate publication in the very acceptable regional review initiated by Dr. de Franciscis and a group of Calabrian devotees of antiquity.²³

SYBARIS: The search for the elusive site of this famous city—its name a byword—is entering a new phase. The Fondazione Lerici²⁴ sent to the zone of the River Crati a team of prospectors, using the new methods, especially of electrical testing. They reported that they had discovered irregularities in the subsoil which they believed might be due to the presence of ancient remains, especially, they surmised, the city walls. The Soprintendenza and various organizations are interested, and a remarkable assemblage of archaeological administrators and experts visited the area in question in July, 1960, with a view to determining a comprehensive plan of investigation and eventual excavation.

From the southeastern corner of the peninsula, Dr. Nevio Degrassi, at the Soprintendenza di Puglia and the Materano, with headquarters at Taranto, renews his generosity of former years in a most liberal manner; the past two years have been a period of great and profitable activity in that area.

At Taranto itself, the excavations of 1959 and 1960 have brought to light numerous burials belonging to the vast necropolis and datable from the seventh to the third and second centuries B.C., as well as some remains of Roman republican structures.

The greater number of burials consists of tombs with a rectangular trench excavated in the natural rock or constructed of blocks. However, chamber tombs also have been found with painted walls, decorated *klinai* and architectural remains (metopes or friezes) belonging to the *naïskos* which surmounted the tomb. Finally, two sarcophagi have been found, one of them with a decorative motif painted on its interior (pl. 119, fig. 6), the other with lid in the form of a small temple and painted decorative motifs; this latter tomb belonged to an athlete, seeing that alongside the sarcophagus two Panathenaic amphorae were found.

²⁰ AJA 60 (1956) 393. ²¹ AJA 63 (1959) 389.

²² AJA 60 (1956) 393.

²³ De Franciscis, in *Klearchos*, 3-4 (1959) 76-84.

²⁴ See infra.

The burial equipment almost always present in such tombs included objects in gold or bronze, but especially vases—oinochoai, amphorae, pelikai, kylikes, lekythoi, aryballoi, etc.—belonging to Corinthian and Attic fabrics.

Some of this equipment, including amphorae of the type known as "ovoid neck amphorae," and kylikes of the Siana type, have already been published;²⁵ others, comprising Corinthian and Proto-corinthian, together with choice archaic statuettes, are in course of publication.²⁶

There are also numerous wells, distributed over all the zone of Taranto; these contain rich deposits of statuettes, matrices, and terracotta reliefs belonging for the greater part to the fifth and fourth centuries B.C.

The remains of a Roman edifice, probably a villa, were found in July of 1960 in Via Nitti. The remains were uncovered of a room with *suspensurae*, a spacious portico with marble bases, accessory apartments, and fine pavements, partly of mosaic, partly of choice marbles.

In the same zone, in the lower strata some *pozzi* tombs have come to light, with abundant equipment including extremely rich furnishings of Attic hydriai and kylikes in black-figure of excellent make and preservation.

At CANNAE²⁷ the excavations have continued in the archaeological zone and on the hillock where the ancient "*vicus Cannensis*" arose, and at the burial area.

On the hillock, a series of streets have been found, heading from the main street which crosses the small city from east to west; they front on dwelling-houses of the mediaeval period; in the zone of the basilica, beneath the great mosaic which had been found as early as the excavations of 1937-1938, many burials have been uncovered belonging to an earlier time, also remains of dwellings and ceramic material of the fourth century B.C.

An excavation on a large scale has been devoted also to the exterior of the circuit of wall along the southern slope of the hillock; numerous rooms have been cleared, a new wall circuit has been

disclosed, and a gate in it has been identified.

In the burial area excavation of the graveyard, which some previous scholars had wished to identify as that of warriors who had fallen in the historic battle of 216 B.C. has been carried to a greater depth, and brought to a conclusion. The evidence proved conclusive for a late mediaeval date;²⁸ in addition, the presence of skeletons of men and women in equal proportions, and a large percentage of children, precludes association with the battle.²⁹

This stratum however lies over an Apulian village which very probably was destroyed at the time of the battle.

At MONTE SANNACE (near Gioia del Colle)³⁰ the excavations have been continued at the vast Apulian inhabited area, both in the plain and upon the acropolis. Excavations in depth have put in evidence the elaborate circuit of wall which, enclosing the summit of the hill, corresponding to the acropolis of the ancient city, extends towards the plain in several directions with a circuit of many kilometers. The walls, well built with large regular tufa blocks and party walls likewise of tufa and limestone, reach at certain points the considerable height of six meters. Many blocks have been found with Greek letters and quarry marks datable probably in the fourth or the beginning of the third century B.C.

In the excavation of the inhabited area numerous dwellings have been found; clarity has been acquired regarding its town planning as regards streets and open spaces and, inside the houses, frequently the dividing walls of the individual rooms. Beneath the houses moreover numerous burials have been found, either in the form of a small sarcophagus or of a tiny receptacle with the deceased in a crouching position, and frequently a rich burial equipment preserved in a small box next to the tomb.³¹ The equipment for the most part consists of abundant ceramic material including important examples of Protoitaliote and Apulian wares (pl. 120, fig. 7), with no lack however of fibulae and girdles.³²

The excavation on the acropolis, which started

²⁵ Felice Gino Lo Porto, in *BdA* (1959) 6-18, figs. 1-19; also, "Recenti scoperte di tombe arcaiche in Taranto," in course of publication in *BdA*.

²⁶ Lo Porto, in *Ann. Scuola d'Atene*.

²⁷ *AJA* 63 (1959) 388.

²⁸ F. Bertocchi, "Il Sepolcreto di Canne," in *RendLinc*, in the press.

²⁹ The anthropological study, by Dr. M. Fedeli of the Istituto

di Antropologia of the University of Rome, is in the press, for the *Rivista di Antropologia*.

³⁰ *AJA* 63 (1959) 388-89.

³¹ Cf. *ibid.*, pls. 96-97, figs. 8-9.

³² B. M. Scarfi, "Gioia del Colle. Scavi nella Zona di Monte Sannace. Le Tombe rinvenute nel 1957," *MonAnt* 45 (1961) 145-332, tavola sinottica, 2 pls. (For the askos shown as our pl. 120, fig. 7, see pp. 235-38, fig. 78.) Also Scarfi, "Due Pit-

in 1959, has brought to light a portico with remnants of Doric columns, together with the remains of dwelling-houses of considerable size. Two monumental tombs, formed of a sarcophagus with monolithic cover enclosed in a burial precinct, have yielded many fragments of splendid Attic ceramics by excellent potters of the close of the sixth century.

In the summer of 1959 a campaign was conducted at GNATHIA. No fresh excavation was undertaken, but a start was made with the study and scientific reconstruction of monuments previously found. Thus there have been identified: a Hellenistic stoa of which three phases of construction have been established, the agora, likewise Hellenistic, lying beneath the Roman forum (pl. 121, fig. 8), even today visible with its good paving-blocks and its rich enclosing colonnade, remains of an amphitheater, probably of wood in its upper parts, numerous dwelling-houses, and in particular rooms adapted to serve as *tabernae* fronting on the Via Traiana. This highway, which crossed the city toward the west, is well preserved; on it abut lesser streets, leading from the forum and the rest of the city. Interest attaches to the remains of honorary monuments standing at the center of the forum and to the very early remains of a foundation, perhaps belonging to a temple.

In the autumns of 1959 and 1960 the Soprintendenza, with the cooperation of a group of students of the University of Heidelberg under Professor B. Neutsch, conducted two campaigns of excavation in the zone of POLICORO, the site of the ancient Lucanian HERACLEA. These excavations revealed noteworthy remains of dwellings of the Hellenistic period with plentiful fragments of Hellenistic wares—lamps, Gnathia vases, coins of that period belonging to the mint of Heraclea, and terracottas.

Then there was found a rich deposit of terracottas of the fourth and third centuries B.C., including typically Tarentine statuettes (pl. 120, fig. 9). On the acropolis traces of fortifications came to light, of large blocks of stone bearing quarry-marks. In the necropolis, numerous burials of the fourth and third centuries B.C. were found, containing a copious equipment: rf. Apulian vases, vases of Gnathia, statuettes of Tarentine type and a few coins. Espe-

cial interest attaches to the finding of Greek and Roman inscriptions.³³

Attention now shifts to the northern part of the peninsula.

The photograph of a vigorous wreathed male head in the Hellenistic tradition from the Belgian campaign of 1960 at ALBA FUCENS, generously presented by Professor Fernand De Visscher (pl. 120, fig. 10), is a reminder of the remarkable yield of sculpture of outstanding merit which has rewarded that undertaking in a remote spot.³⁴

In the Faliscan territory, one of the most remarkable developments of recent years has been Professor Renato Bartoccini's discovery, investigation and systematization, at a point some ten miles north of Rome, of the *Colonia Iulia Felix Lucus Feroniae*, a primitive rural market-place and important cult center, subsequently maintained as a Roman *colonia*: the earliest period abundantly attested by finds of votive offerings, the later by the forum with inscriptions, two temples, an amphitheater, extensive structural remains, together with sculpture and miscellaneous finds. This undertaking began with a chance discovery in 1952 and formed the subject of a communication by Professor Bartoccini at the VII. International Congress of Classical Archaeology in Rome, 1958, now available in print;³⁵ he also presented a communication on the amphitheater and its founder at the meeting of March 23, 1961, of the Pontifical Academy of Archaeology; his full publication is in preparation. This important site has now been put in order and the minor objects installed in an antiquarium: since it lies close to the new *Autostrada del Sole*, it should soon attract a multitude of visitors; with its discovery, another fixed point in the sacred geography of ancient Italy has been established.

The extensive burial areas of the South Etruscan communities, with their infinity of rock-cut or structural tomb-chambers once covered by earth mounds, have increasingly proved an ideal field for the application, first, of air-photography as applied by John Bradford, and then the methods of electric prospecting and photographic sounding developed by the Fondazione Lerici.³⁶ The use of this latter method has enabled the official archaeologists to

tori apuli della seconda metà del IV sec. a. C.," *ArchCl* 11 (1959) 179-88, pls. XLV-LXV.

³³ F. Gino Lo Porta, "Ricerche archeologiche in Heraclea," in course of publication in *BdA*.

³⁴ *AJA* 61 (1957) 379-80. The head belongs to a colossal

Herakles Epitrapezios.

³⁵ In the report of that congress, and also separately.

³⁶ *AJA* 61 (1957) 380-81; 62 (1958) 423. C. M. Lerici, *I nuovi metodi di prospezione archeologica alla scoperta delle civiltà sepolte*, 419 pp. (Lerici editore, Milan 1961).

avoid excavating where there was no likelihood of positive results; occasionally, as the reward of many repeated efforts, it has revealed photographically the intact interior of a tomb rich in contents. A most gratifying instance of this has been reported from CERVETRI on March 22, 1961.³⁷ This tomb, the 610th to be identified photographically in this area by the technicians of the Foundation, is situated, like the well-known Tomba Campana, on the lateral ridge, Monte Abetone, to the east of the town-site itself, from which it is separated by the Fosso della Mola. When opened in the presence of a small group of distinguished archaeologists, it proved to consist of three units, the first being a large rectangular central room with two stone funeral couches set against the side walls. Two doors in its rear wall, outlined with the usual relief band terminating above in the "becco di civetta," lead to two smaller rooms which also communicate with the central one by windows. All these elements are reminiscent of the Etruscan dwelling-house; the workmanship is stated to be excellent, and to accord with a dating in the time of the greatest splendor of Caere, the latter part of the sixth century B.C. The burial equipment, some fifty pieces, had lain partially concealed beneath a thick infiltration of mud; but, even in the first stage of its recovery, it was possible to recognize a clay brazier containing traces of vegetable ashes—the remains of the last rites—, a large Attic bf. crater showing the departure of a warrior, various amphorae, hydriae decorated with meanders, as well as some bucchero and impasto wares: in all, a highly acceptable addition to the Etruscan and Greek inventory of the Italian collections and a fitting reward for skill and perseverance.

A noteworthy event under the Soprintendenza for Etruria (Florence) has been due to the collaboration of various parties supervised by the Soprintendente, Professor Giacomo Caputo, who has generously communicated information and photographs: the investigation of a large monumental tomb at QUINTO FIORENTINO, called "La Montagnola." The earth mound which surmounts the stone structure

and which is now topped with trees and verdure has been left intact except for the trench which led to the discovery of the interior of the tomb; but this interior has now been cleared and forms one of the largest and most typical examples of its class (pls. 121-22, figs. 11-13).³⁸

The approximate overall dimensions of the interior of the monument are m. 28 in length by 8.30 in width, and it is constructed throughout, except for the central pillar, of large, roughly hewn blocks of two qualities of limestone of the locality and vicinity. A *dromos* open to the air leads to a corridor, roofed with false vaulting, on each side of which a burial chamber with similar walls opens out. Beyond is the *tholos*, m. 5.30 in diameter, constructed as a false dome with a pillar, composed of several pieces of a finer quality of limestone, well-worked, m. 1.35 square at base and m. 7.50 high, supporting the capstone. On one of the doorposts of the burial chamber to the right an Early Etruscan inscription has been cut; various graffiti on the two doorposts include representations of a horse, a stylized tree, the forepart of a boar, and also, it is stated, some Phoenician letters.

This investigation has involved the salvaging, cleaning, and when possible recombination, of the ceramic fragments, especially early bucchero, portions of an ostrich egg and a tridacna shell, and many bits of bone, ivory, bronze, gold and largely disintegrated iron which had escaped the depredations of tomb-robbers.³⁹

The monument has been reconditioned and is now accessible to visitors. Owing to the care which has been devoted to recovering and interpreting the scattered remains of its burial equipment, it constitutes one of the most informative examples of the Oriental influences which penetrated Etruria in the Early Archaic period—the second half of the seventh century B.C. at latest; in addition to this, its location suggests the course followed by these influences when spreading from Northern Etruria through the mountains and over into the Po Valley.⁴⁰

³⁷ Authorized report in *Il Tempo*, March 23, 1961.

³⁸ Photographs from the Soprintendenza alle Antichità d'Etruria, Florence, generously presented by the Soprintendente, Professor Giacomo Caputo.

³⁹ Tomba Etrusca "La Montagnola," *Quinto-Sesto Fiorentino*, by the architects F. Chiostri and M. Mannini; archaeological comment by G. Caputo. From the periodical *Bollettino Tecnico*, the organ of the Architetti della Toscana and the Associazione Toscana Architetti, Jan.-Febr. 1960. A brief preliminary state-

ment by Caputo had appeared in *StEtr* 27 (1959) 269-70, with one plate.

⁴⁰ The small finds have entered the patrimony of the Soprintendenza in the Florence Museum. A selection of the fragments was included in the Bologna *Mostra dell' Etruria Padana ecc.* (see infra): catalogue, pp. 250-53 (G. Caputo).

The ostrich egg bears delicately incised geometrical and lotus designs; the tridacna has, incised, a palmette rising from the volutes characteristic of an Aeolic capital; two ivories show

From Sept. 12 to Oct. 31, 1960, an exhibit was held at Bologna, illustrating Etruscan culture of the Po Valley and in particular the city of Spina together with areas lying somewhat to the south. It was organized by the Soprintendenza for the Emilia, with the collaboration of other organizations and the coöperation of a number of specialists. It demonstrated effectively the characteristics of the cultural area in question and its right to recognition on its own merits as well as its intensive commercial relations with Athens at the flourishing period of her vase-painters.⁴¹

The news from SICILY maintains a tradition of interest and variety. The huge votive deposit reported briefly from CATANIA a year ago has now been studied in detail by the Ispettore Onorario, Dr. Giovanni Rizza, who kindly communicates the following:

This was a chance discovery in the summer of 1959: the deposit extends along the foot of the southern stretch of the acropolis of Greek Katane, in the area to the southeast of the ancient theater. The discovery took place in the course of digging for the sewage works of Piazza San Francesco and in the adjacent stretch of Via Vittorio Emanuele. An enormous quantity of Greek ceramics and figurative terracottas were recovered.

The salvaging of this material was effected with great difficulty by reason of the presence of a seepage of water running above the archaeological stratum. The investigation was limited to the stretch of ground cut by the trench which had been opened for setting in place the pipes of the sewer, but the deposit continued visible on both sides of the cutting. It was followed continuously, along the trench, for a distance of ca. 27 meters. A second stretch was identified at a distance of 18 meters from the first. The materials recovered were transported to the Museo Comunale of the Castello Ursino, where the work of restoring them is in progress.

The ceramics are of the archaic period and for the greater part imported: the most noted fabrics of the sixth century are represented. Corinthian

wares predominate, the shapes and decoration of which are typical of Middle and Late Corinthian. The Attic potteries also are represented by products dated throughout the whole sixth century B.C.; among the earliest wares are some fragments of the Komast Group; among the most recent, numerous hemispherical kylikes of the close of the sixth century decorated with great apotropaic eyes. Especial interest attaches to a group of *phiai mesomphaloi* decorated on the interior with motives over-painted in white and red (pl. 124, fig. 14).

Numerous kylikes, some of them with scenes represented on the interior tondo, can readily be attributed to Lakonian fabrics of the same period. A novelty, not only for Catania but for the other Greek centers of Sicily as well, consists in the finding of a notable quantity of wares with creamy white ground and decoration painted in brown and reddish color, attributed to the potteries of Chios or Naukratis; there are fragments of some twenty kylikes, a krater, a phiale, and of other types of vase the forms of which it should prove possible to determine with the progress of restoration. Special interest, however, attaches to the finding of a great quantity of Chalcidian wares, the presence of which at Katane, a Chalcidian colony, can bring a notable contribution to the problem of the provenance of this group of vases. Finally, other fabrics, especially those of the Oriental Greek world, are represented in the vase deposit, even if of their products only a few fragments have been found.

Whereas the great mass of the vases are comprised within the course of the sixth century B.C., and only a few fragments can be attributed to a later period, coroplastic is represented by materials extending, in a continuous series, from the beginning of the sixth down to the fourth century B.C. A group of exceptional quantity is formed by figurines of men and animals, more or less rudely hand-wrought, which run parallel to the production obtained by means of molds: the subjects represented are the most varied imaginable, and are taken either from myth or from

figures of elks, a northern species of fauna; another bears the Oriental motif of the Sacred Tree amid *à jour* convolutions; the stag, the sphinx, and various other real or fantastic animals are included in the repertory; a human hand clasping an axe causes one to regret the loss of the figure to which it belonged; a bronze, perhaps once attached to the handle of a

vase, consists of *à jour* volutes and palmettes. There is a minute gold *fibula a sanguisuga*. Similar material had been yielded by the "princely tombs" of Caere and Praeneste.

⁴¹ Illustrated catalogue, *Mostra dell' Etruria Padana e della città di Spina*, 449 pp., 164 pls. (Alfa, Bologna, 1960).

daily life. More readily classifiable and capable of being grouped in series are the statuettes fashioned by the use of the matrix. Every type, in fact, is represented by numerous examples; and often the matrix, when worn out or broken, has been replaced by another of different dimensions. The very numerous clay masks, of which several hundred examples have been assembled, can be grouped under some thirty distinct types, and show various dimensions ranging from m. 0.07 to m. 0.35 in height. Among the standing female figures of the archaic period some sixty types can be distinguished, each of which is represented by numerous examples (pl. 123, fig. 15). There are also many types of seated figures, male and female (pl. 123, fig. 16). Finally we must mention a considerable quantity of statuettes of exotic subjects, such as the little dwarfs with huge paunches showing parallel creases, and the representations of monkeys, alone or in pairs, or with a baby monkey in their arms. Among the more recent materials, from the fifth or fourth century, the predominant type is the standing female figure, holding a torch in one hand and in the other a piglet: she can readily be identified with Kore (pl. 123, fig. 17). It is likewise to the cult of Demeter and Kore that numerous models of plates refer, which hold votive offerings including pomegranates and small cakes.

The French School of Rome has carried further its investigation of MEGARA HYBLAEA, concentrating on the Hellenistic Agora, which has proved to spread further to the south than had previously been recognized, to lie over the archaic agora of the same extent, and itself in turn to have been occupied at a higher level by scattered remains of poor dwellings of the Hellenistic-Roman period.⁴² The central area of the Hellenistic Agora was occupied by an elaborate bath structure, all the details of which are represented by existing remains, including evidence for a rotunda on the southern side, a series of tubs, and the complete drainage system; the date appears to be the early third century B.C., to which period a shallow portico belongs which bounds the agora on the west, separating it from the Hellenistic fort, but leaving room for a large edifice the date and destination of which are still to be determined.

⁴² Information kindly supplied by the ex-Director, Professor Jean Bayet.

⁴³ The hut-village at Leontini, reported in *AJA* 60 (1956)

Especial attention has been devoted to the small sanctuary which had been discovered to the east of the baths: this proves to be stratigraphically dated in the third century B.C.; it forms a square of roughly six meters a side; but only the north and west areas have been cleared up to now (pl. 124, fig. 18). As appears in the photograph, it was equipped with various ritual furnishings—two bases, probably for supporting stelae, some low benches, enclosed by rows of thin rectangular stones set on edge, two rectangular terracotta basins, four irregularly rounded bases, etc.; in particular, a small stone altar with architectural decoration. Some late walls in the neighborhood yielded, among re-used material, a small stone group of perhaps Hades and Persephone enthroned side by side, datable in the third century B.C., and a brief archaic funerary inscription.

The discoveries at the lower, archaic level were of equal importance, starting with a portico which extended along the north side of the area. As to the two small rectangular structures lying to the west of the archaic agora, it remains for the campaign of 1961 to determine if, as has been suggested, they are a pair of temples enclosed in a precinct wall; in 1961 it is also planned to clear the areas of the Hellenistic Agora lying to the south and east.

Professor Piero Orlandini kindly communicates information regarding his campaign of 1960 in the surroundings of GELA.

The most important discovery has been that of a small village of the First Age of Bronze (ca. 1800-1400 B.C.) at MANFRIA, in a hilly region some 10 km. west from Gela. The village comprised nine huts, elliptical in plan, some of them with niches at the sides and outer strengthening walls. The floors of the huts showed the holes for the poles supporting the structure, which must have consisted of straw and reeds (pl. 125, figs. 19-21). The huts were surrounded, on the outside, by numerous large fireplaces, full of ashes and animal bones. The refuse dumps were situated on the north side of the village. This is the first complete village of this period to be excavated in Eastern Sicily (apart from those on the Aeolian Islands).⁴³ Many huts preserved remains of the flooring in a fine white chalky cement. The material found (pottery, flint

397, and then in *BdA* (1957) 66-68, fig. 9, belongs to the later, Siculan, culture.

implements, stone mortars, etc.) is all of the type of Castelluccio, characteristic of this phase.

Another excavation, at FEUDO NOBILE, to the east of Gela, has led to the discovery of a large Greek establishment of the fourth century B.C., of a rectangular plan, with eighteen rooms grouped about a central court. Beneath the foundations there are traces of an earlier period going back to the close of the seventh century B.C.

At PONTE OLIVO, to the north of Gela, the chance find of some prehistoric burials has resulted in the recovery of 33 painted vessels of the close of the Bronze Age.

On the hill of GELA itself, chance discoveries have yielded some more examples of the Geloan terracotta industry (antefixes, arulae, acroteria) of the sixth and fifth centuries B.C.⁴⁴

In conclusion, special mention must be accorded to the new science of SUBMARINE ARCHAEOLOGY—a common meeting-place of sports-lovers, technicians and professed archaeologists—in its application to the waters of Italy, accomplished largely through the efforts of Professor Nino Lamboglia and administered at the Museo Bicknell in Bordighera

and the Museo Navale Romano at Albegna.⁴⁵ The second international congress of workers in this field, held at Albegna in June-July of 1958, served to focus the efforts of all concerned; that year had witnessed the establishment of the *Centro Sperimentale di Archeologia Sottomarina*; it was already possible to speak of a *Forma Maris Antiqui* as an ideal to be envisaged, comparable to the *Forma Imperii Romani*.⁴⁶ In consequence, in 1959, the Italian authorities placed at the service of this undertaking a corvette, the *Daino*, specially equipped and manned for the purpose; and experimental explorations commenced along the Ligurian coast. Then attention was directed to the sunken Roman ship off the island of Spargi in the Maddalena Archipelago. A more urgent need however was the investigation of the submerged area of Baiae in a corner of the Gulf of Naples. Here a preliminary survey, limited to an area near the Punta dell' Epitaffio, revealed—in contrast to the well-known therapeutic establishments on higher ground—the presence of the port city itself with streets, houses and harbor-works: a promising field for more extensive campaigns of future years.⁴⁷

ROME

⁴⁴ *Rivista di Studi Liguri* 24 (1958).

⁴⁵ Francisca Pallares Salvador, *Arqueologia Submarina. Dos años de campaña arqueológica con la nave "Daino."*

Acknowledgements for photographs: figs. 1-3, courtesy C. Pietrangeli; fig. 4, courtesy P. C. Sestieri; fig. 5, courtesy A. de Franciscis; figs. 6-9, courtesy N. Degrassi; fig. 10, courtesy F. De Visscher; figs. 11-13, courtesy G. Caputo; figs. 14-17, courtesy G. Rizza; fig. 18, courtesy J. Bayet; figs. 19-21, courtesy P. Orlandini.

⁴⁴ Recent Geloan publications:

P. Orlandini, "Materiale archeologico geleso del IV-III sec. a. C. nel Museo Nazionale di Siracusa," *ArchCl* 12 (1960) 57ff; "Gela rediviva," *Zotichiani Woekow* 26 (1960); "Scoperta di un villaggio preistorico della I^a età del Bronzo a Manfria, presso Gela—rapporto preliminare," *Koçalos* 6 (1960) (in press).

P. Orlandini and D. Adamesteanu, "Gela—Scavi e scoperte—fasc. II," *NotSc* 1960 (to appear).

⁴⁵ For the Institute at the Museo Bicknell and its interests, cf. *AJA* 60 (1956) 396; 62 (1958) 427.

Archaeological Notes

A DECORATIVE MOTIF EXCLUSIVE TO FALISCAN RED-FIGURE

PLATE 126

Occasionally, in the course of his studies, the archaeologist is fortunate to discover in the decorative repertory shared by a number of different vase-painting fabrics, a particular rendering of a common motif which clearly singles out a specific fabric. This is true for the wave or "running dog" motif which is so familiar to us from Etruscan and South Italian vases of the fourth century B.C. that it calls for no elaboration here. In two Etruscan fabrics of the fourth century, Caeretan and Faliscan, which have been the subject of intensive study, I have noted that—although the two centers of production employ the wave or "running dog" pattern on their vases in very much the same way—the Faliscan, on more than one occasion, depicts the motif in a manner characteristically its own (pl. 126, figs. 2 and 3). This unique rendering of the wave motif with a tear-drop at the blacked-out base (pl. 126, fig. 1) is exclusively Faliscan. No exceptions are known to me from the vast output of other Etruscan red-figured fabrics or, for that matter, in Attic or South Italian red-figure.

The "tear-drop wave pattern," if I may call it that, is found on Faliscan vases of more than one given shape which do not, for the present, suggest production by any single painter. As the purpose of this brief note is to make this convenient and serviceable clue for attribution to fabric immediately available to the interested scholar, I do not delay publication of it until a prolonged study has been completed. Although the number of published vases bearing this characteristic motif is small indeed, the unpublished specimens which I have encountered in museum studies are fairly extensive. It suffices here to point out a few published and unpublished examples and to illustrate two specimens which show the exclusively Faliscan version of the common wave motif:

1. Oinochoe, Shape VII
Rome, Museo di Villa Giulia, inv. no. 26053
Provenience, Vignanello
Maria Santangelo, *Musei e Monumenti Etruschi* (Novara 1960) p. 121 top right; in color: *Enciclopedia dell'Arte Antica* (Enc. Italiana, Rome 1960) vol. III, opp. p. 576.
2. Oinochoe, Shape VII (pl. 126, fig. 3)
Rome, Vatican City, Museo Gregoriano Etrusco, inv. no. Z 112

¹ Wiegand: *Berliner Museum* 2 (1926) 18f; C. Weickert: *Griechische Plastik* (Berlin 1946) 6-12, fig. 1-4; the best photographs are those of E. Buschor (*Die Plastik der Griechen* [Berlin 1936] 34-38) and of R. Lullies and M. Hirmer (*Greek Sculpture* [New York 1957] pls. 18-21).

² Cf. the magical beads from the Crimea (E. R. Goodenough:

A. D. Trendall, *Vasi Italici ed Etruschi*, vol. 2, pl. LXV, c.

3. Oinochoe, Shape VII
Rome, Palazzo dei Conservatori, inv. no. 86
4. Oinochoe (pl. 126, fig. 2)
Cerveteri, Magazzino, no inv. number
Provenience, Caere
Height, 17.5 cms.
5. Epichysis
Provenience, Vignanello
NSc (1916) 72, fig. 29,1 whence: *ArchCl* 12:1 (1960) pl. XII, fig. 2 and p. 54f.

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THE BERLIN SPINNER

PLATE 127

One of the finest statues of the archaic period is the well-preserved, robustly modelled goddess of the early sixth century B.C., now in the Berlin Museum (pl. 127, fig. 1); by this time she is sufficiently well known to go without description here.¹ Certain features, however, ought to be pointed up to aid in her identification: The objects used for earrings are definitely cone or vase-shaped,² and much the same is true of two examples making up the necklace. In the right hand is a round object with a projection jutting out straight from the center, which has, in every description I know of, been called a pomegranate. The outer garment, covering the shoulders and extending down a little below the waist, has the same cut found on an alabastron from Cyprus, now in the British Museum.³ On her left forearm is a bracelet worked out in spiral form.

The attribute we are especially concerned about is the object in the right hand. The fingers and the hand completely encircle the object in such a way that the end of the middle finger and the end of the thumb contact each other, the forefinger curved to follow the contour of the others without pressing against the outer rim of the object.⁴ Behind the juncture of the thumb and finger the object has not been modelled out, in fact, it is attached to the body, perhaps to give the arm and hand more stability; from the front view, which was of primary concern to the sculptor, nothing behind the thumb and forefinger is visible. The side view re-

Jewish Symbols in the Graeco-Roman Period [New York 1956] V, fig. 99).

³ *JHS* 8 (1887) pl. LXXXII.

⁴ This feature can be observed only in a detail photograph taken from the left side of the figure.

veals that not only does the forefinger project beyond the object; the thumb, especially toward the end, overlaps the rim. The object itself presents a decidedly flat surface to the observer, except for a slight inward depression around the circular projection in the center, and the projection itself has the texture of a wooden surface. The latter juts out abruptly, without any sloping transition, from the center, its end cut off evenly at right angles to its circumference.

The statue, as the rear view testifies, is built up in terms of three rectangles, one above the other, features the ancient spectator probably never saw. This conclusion is supported by the side view which shows how unnaturally the forearms, beginning at the elbow, are bent to enhance the frontal view.⁵ The roundness of the object held in the right hand is especially obvious in contrast to the rectangular forms elsewhere and also because the hand, encircling it tightly, emphasizes its shape for the spectator in front. It is hardly likely that the ancient observer could see any shape inside the right hand, which again means that the statue was so placed that the observer saw it only from a frontal view. The long head and its features reveal a striking resemblance to a Metropolitan Museum bronze.⁶

The object in the right hand has been called a pomegranate, a statement I am prepared to call into question: the fruit (pl. 127, fig. 2) we find in the hands of so many fertility goddesses has, at one end, a stem that curves to one side as it leaves the fruit and whose extremity never presents the flat surface of the object in the hand of this goddess (pl. 127, fig. 3); the other end of a pomegranate shows a projection rising in a smooth curve from the circumference of the rind, terminating in a cluster of pointed barbs.⁷ The surface of the sculptured object, as seen by the observer, has very little resemblance to either end of a pomegranate for a number of reasons: the plane of its surface is too flat, the projection rises too abruptly and is cut off too evenly at the end, and the fingers encircle the object as if it were disc-like instead of a full round shape. The object resembles a spindle of wood, with an attached whorl whose outer surface is encircled by the thumb and middle finger; if this same object were carved out between the thumb and the body of the goddess, the third and fourth fingers would appear as relaxed as the forefinger. The very position of the hand and the way the object is presented to the observer emphasizes the flat surface and the circumference of the whorl.

⁵ Wiegand: *Die Antike* 2 (1926) 32.

⁶ *AJA* 44 (1940) 181, figs. 1-3.

⁷ G. Ferguson: *Signs and Symbols in Christian Art* (New York 1955) 47; G. H. M. Lawrence: *Taxonomy of Vascular Plants* (New York 1951) 629, fig. 234; another female figure of terracotta (British Museum No. A 261; E. Neumann: *The Great Mother* [New York 1955] pl. 153) holds an object which has been called a pomegranate, a flower and a vase; the workmanship and the damage suffered by the statuette prevent us from identifying it with any degree of certainty. The same is true of another Aphrodite in the company of Eros, a terracotta group in the Louvre (*La Revue des Arts* [1958] 143, fig. 4).

⁸ For this observation I am indebted to a sculptor, Prof. Wm.

This point is decisive enough to warrant a further observation: if we assume that the artist intended the observer to gain the impression that the hand is holding a round object, and if we then observe the way the fingers fit around it, we can hardly conceive of it as a round fruit. To be holding the latter the forefinger would certainly touch a portion of its surface, the middle finger could assume the same position it now occupies, but the two remaining fingers, closing in around the inner rounded surface (if the whole fruit were modelled out), would surely recede below the middle finger and describe a smaller circumference.⁸ As we see the hand from the front view, the emphasis is laid on the circular object; one can hardly notice that the middle finger, not the forefinger, contributes most to describe the circumference. From the left side (pl. 127, fig. 4) we can observe that the forefinger is listless, that the two last fingers follow suit so that, from the appearance of all the fingers *in toto*, we get the impression that the object contacts only the thumb and middle finger. The last two fingers tell us that there should be an empty space between the cylindrical whorl and the body of the figure, except for a continuation of the wooden spindle running through the center of the whorl and which the last two fingers would not contact.⁹

If the object is a whorl pierced by a wooden spindle (which appears very likely), we must definitely identify this statue as the earliest representation of the Heavenly Aphrodite in Greek sculpture. Wilamowitz, then, was the first (Wiegand p. 23) to put his finger on her identity.¹⁰ She is the goddess of the heavens who spins the golden thread of life for the organism and the soil, the same divinity presented to us on a vase in Berlin (Antiquarium 2688) and on the white ground cup of the British Museum (D2).

Another figure in relief on a stele,¹¹ bearing the name Amphotto, shows a figure somewhat similar to the Attic goddess insofar as she is a fully draped, standing figure wearing a polos on her head; certainly we cannot call her a portrait of the deceased. The profile divinity holds both hands extended to the front, the right much farther than the other. The left hand holds a round object too indistinct to identify with any degree of exactness, the right hand holds thumb and finger pressed together, the remainder of the hand open to the view of the observer (Gardner believes she was holding a flower which was painted on the marble and hence no

Ehrich of the University of Rochester.

⁹ For the fingers of a hand holding a pomegranate see H. Payne and G. M. Young: *Archaic Marble Sculpture from the Acropolis* (London 1936) pl. 18. The side view shows that the object was not modelled out except for the frontal view.

¹⁰ I am inclined to agree with F. Studniczka (*Jdl* 26 [1911] 136) when he claims that the pomegranate is not an attribute of Aphrodite, but of chthonic divinities. This does not mean, however, that Aphrodite does not appear in underworld scenes.

¹¹ P. Gardner, *Sculptured Tombs of Hellas* (London 1896) 158, pl. xvii. The one feature which can be put down definitely as characteristic of a spinner is the spread of the fingers of the right hand.

longer visible). The figure may very well be the spinning Heavenly Aphrodite, but in its present state it is difficult to be positive. It was fashioned about the middle of the fifth century B.C.

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CAPE PHOKAS, LESBOS—SITE OF AN
ARCHAIC SANCTUARY FOR ZEUS, HERA
AND DIONYSUS?

PLATES 128-129

On the island of Lesbos in the last half of the seventh century B.C., there was a sanctuary within which a triple cult of Zeus, Hera, and Dionysus flourished. Fragmentary poems of Sappho and Alcaeus witness both to the cult and the sacred precinct.¹ Fifteen years ago Charles Picard wrote that perhaps one day the actual site might be identified.² An examination of the literary evidence in the light of a visit to Cape Phokas on the southern coast of Lesbos prompts the following article with its proposed identification of the sanctuary.

The literary evidence from the Lesbian poets sheds some light on the physical situation of the sanctuary as it was known in their day.

Sappho 17.3-10, according to Denys Page, describes "the sojourn of the Achaean fleet at Lesbos on the way home from Troy."³ The fragmentary lines describe a visit of the Atreids to the Lesbian precinct of Hera, Zeus, and Dionysus, for an unnamed but apparently important cause. The tradition of the visit is evidently linked with an actual site, known to Sappho; and one concludes that the sanctuary must have been not only near the sea but also have afforded in its vicinity suitable anchorage, for the Atreids are described as admirals of a homeward-bound fleet which must have found mooring as they made their prayer.

Both language and incident indicate that Sappho drew upon the Trojan epic traditions for her stanzas, and in the *Odyssey* itself occurs a slightly variant form of the story which Sappho cites.⁴ There we read that Menelaus alone on his homeward voyage with his half of the Achaean forces stopped on Lesbos, invoked a divinity concerning his subsequent route,⁵ and then

sailed on. The sanctuary itself is not identified, but a significant clue to its whereabouts is certainly found in lines 168-172 where Nestor avers that Menelaus arrived after him in Lesbos "while we were discussing the long voyage, whether we should sail above (καθ' ἑπερθε) craggy Chios, toward the isle of Psyria (νήσου ἐπὶ Ψυρίας) keeping Chios to our left, or on the landward (ὑπὲρθε) of Chios alongside of windy Mimas." This debate evidently presupposes the ancient Greek mode of navigation by landfall, and one must suppose accordingly that the Achaean fleet has sailed south from Troy and around the coast of Lesbos to a point where two routes offer themselves, the one to the south through the straits between Asia Minor and Chios, the other to the west and thus above Chios and modern Psara (pl. 128, fig. 1). Thus the site for the consultation of the god must have been situated by the epic tradition on the southern coast of Lesbos, within sight of Psara, Chios, and the Asian mainland.

A lengthy fragment of Alcaeus furnishes more data concerning the sanctuary itself.⁶ The poet, harried by and in flight from his political foes in Mytilene, visits the precinct (τέμενος) of Zeus, Hera, and Dionysus to offer his prayers. His poem opens with a description of the sanctuary itself. It is conspicuous (εὐδαιλον) and the equivalent Homeric adjective (εὐδαίελος) occurs, significantly enough, only in the *Odyssey*,⁷ where it usually describes Ithaca but also may denote in general fashion any island. More specifically still, the term εὐδαίελος seems to be used in describing that which is conspicuous or easily seen from the sea, for it evidently implies those rugged heights of the Greek islands which make them readily visible on the horizon. Such being the case, Alcaeus' use of εὐδαίλον implies that the site of the precinct can be espied from far at sea.⁸ According to the poet, the sanctuary is large, spacious (μέγα), and the whole descriptive phrase, εὐδαίλον τέμενος μέγα, seems to trace the visual progress of the poet; a conspicuous site from a distance reveals itself as a precinct which upon entry is finally perceived as large. Alcaeus further describes the sanctuary as common, "for all to share" (ξύνον); and, if the term refers to the Lesbians who founded the sanctuary then one must suppose a location accessible to all the islanders, hence more or less centrally situated.⁹ The first stanza closes by noting what is found within the precinct, "the altars of the blessed Immortals," who are Zeus.

⁶ G 1.

⁷ Liddell, Scott, Jones, *Greek-English Lexicon*, s.v. That Sappho should narrate a tradition about this sanctuary known only from the *Odyssey* and Alcaeus use a term peculiar to that epic in describing the same precinct are significant indications that the shrine was popularly linked with the Homeric tradition in question.

⁸ S-A 197. It is at least possible that the poet actually arrived by sea himself on this occasion, although it is unnecessary for our purpose to suppose this.

⁹ As Page remarks (S-A 163) the term may mean that the sanctuary was common to the three divinities.

¹ Edgar Lobel and Denys Page, *Poetarum Lesbiorum Fragmenta* (Oxford 1955) 15 (Sappho 17) and 176 (Alcaeus G 1). References hereafter will cite this edition as in the parentheses above. Since there is no positive evidence linking G 2 with these poems, we have not included that fragment in the survey of literary evidence concerning the sanctuary. A suggestion is hazarded concerning G 2 in note 15 infra.

² Charles Picard, "La triade Zeus-Héra-Dionysos dans l'Orient hellénique d'après les nouveaux fragments d'Alcée," *BCH* 70 (1946) 462, n. 4.

³ Denys Page, *Sappho and Alcaeus* (Oxford 1955) 59. Hereafter this book is cited with the abbreviation S-A.

⁴ *Odyssey* 3.130ff. Cf. also S-A 59-60.

⁵ Simply *πρότερον δὲ Θεῶν* . . . S-A 60 identifies the divinity as

invoked in the following verses. The poet mentions no temple or building but simply three altars for Zeus, Hera, and Dionysus within the archaic precinct.¹⁰

In summary then, the literary evidence presupposes and describes a site near the sea on the southern coast of Lesbos with a suitable harbor at hand, a site from which one could see the Asian mainland, Chios, and Psara. The precinct must be elevated in position and readily visible from far at sea; it must be spacious, accessible to all, and the cult of Zeus, Hera and Dionysus must be associated with its three altars.

There are very few places on Lesbos which can be certainly associated with the cult of Dionysus.¹¹ On the southern coast of the island there is only one such site and that is on Cape Phokas, about three miles southwest of modern Brisa (Vrysia) (pl. 128, fig. 2). In the tiny chapel of Saint Phokas on that cape there was once found an inscription "to the Bresageneian Dionysus."¹² Other marble fragments found at the same site, and described by Robert Koldewey, were ascribed by him to a small Doric temple *in antis* of the first century B.C.¹³ The mere presence of this Christian chapel, far from any village, would lead one to suspect an association of the site with a deeply rooted pagan cult which could be eradicated only by being supplanted. One other inscription was found at this site, a short column base on which the word "thank-offering" (*χαριστήριον*) still remained.

On April 19, 1960, the author of this article landed on Lesbos and made his way to the village of Plomari at the foot of Mount Olympus on the southern coast, in order to visit Cape Phokas and to determine whether that site could be identified with the precinct known from Sappho and Alcaeus. Since the rugged mountains and hills west of Plomari made travel by motor vehicles impossible, a fishing boat and pilot were hired for the trip.

On the morning of April 20, 1960, through intermittent showers, we sailed from Plomari toward the west, following closely the southern coast of Lesbos (pl. 128, fig. 2). After traveling less than three miles at the foot of lofty cliffs, we rounded a small promontory. The pilot immediately pointed to a cape eight miles away across the sea, a single spit of land jutting toward the south, a conspicuous landmark. He identified it as Cape Phokas, our destination. As we moved on, the outline of the promontory became evident and one noted especially that an elevated plateau, crowned by a knoll, formed its southern tip (pl. 129, fig. 4). As we sailed close to the cape a natural harbor appeared on the east

side of the promontory, sheltered by the bulging height of the plateau to its south and the ridges of the mainland to the north. As early as 1880 E. Pottier and A. Hauvette-Besnault had noted here a granite mole, as well as slabs and broken columns under water, and they identified the area as an ancient harbor.¹⁴ Several fishing boats were already moored within this anchorage and their crews were drying and mending their nets on the beach. We disembarked and mounted the ridge which connects the plateau and the mainland. The soft green turf was covered with a shimmering mass of spring flowers, golden, red, and violet. On the plateau itself, which rises on steep rock cliffs about thirty feet above sea level, one can look southward over the sea. Twenty-five miles to the southeast the Asian mainland is visible: the dark mass of Chios rises thirty miles to the south: the smaller outline of Psara is visible forty miles to the southwest. The plateau itself was a large, roughly oblong tract, its length running from east to west, and a hillock rose on its western end (pl. 128, fig. 3). We mounted this hill to survey the area from its vantage (pl. 129, fig. 5). Facing east one could estimate the total area of the plain as perhaps three to four acres. At the foot of the hillock, running directly south to north, a line was clearly discernible in the vegetation. The northern extremity of this line met a similar one created by a sloping bank which ran from west to east (pl. 129, fig. 7), thus setting off a spacious oblong area, roughly 100 by 150 yards, within which sharply defined area the spring flowers grew far less abundantly. On the northern side of this oblong at least one terrace served to bring the plain down to the level of the connecting isthmus (pl. 129, fig. 6). Across the center of this plateau a stone wall zig-zagged. It was evidently of recent origin, although it contained many marble fragments and blocks from ancient structures. Outside of the northeast corner of this oblong area stood the Greek Orthodox chapel of Saint Phokas. Fragments of marble, including the drum of a fluted column, stood immediately in front of the chapel. Several large slabs of marble were built into the rough walls. Within the chapel, on the gravel floor at the east end of the building (which is apsidal in form), stood a fragment of a fluted column and the "thank-offering" column noted above. The actual Dionysus inscription, once near the door and copied by Koldewey, had disappeared as early as 1899.¹⁵ As we embarked again and sailed for Plomari, the "shrill wind" sprang up from the east and made our return as difficult as it

[1880] 445) and the local people still speak of it as the site of the "palace of the queen of Brisa."

¹³ Robert Koldewey, *Die Antiken Baureste der Insel Lesbos* (Berlin 1890) 64. K's account (pp. 63-64 with the accompanying diagrams) includes a full description of all the remains of the ancient temple which we note below in describing our visit.

¹⁴ E. Pottier and A. Hauvette-Besnault, "Inscriptions de Lesbos," *BCH* 4 (1880) 446.

¹⁵ For *IG*, published in that year, already notes, "*nunc ut videtur periit.*"

¹⁰ It is possible that *τὸνδε κεμήλιον* refers to a cult image (*S-A* 164). This is perhaps significant in the light of the much later temple in honor of Dionysus at this site.

¹¹ *S-A* 169.

¹² *IG* XII (2) (Berlin 1899) 478.2. ΔΙΟΝΤΣΩ ΒΡΗΣΑΓΕ-
[ρη]. Thus we have a Dionysus native to (or peculiar to) the town of Brisa. The compound adjective has been translated as in Zeus Κρητογενής and Homer Μελησιγενής (cf. *BCH* 4 [1880] 446) and so identifies the place of origin of this Dionysus (or more accurately, perhaps, of his cult). In the last century Cape Phokas was known as "Vrission Acrotiri" (*BCH* 4

once made easy the departure of the Achaean fleet toward the west and the Greek mainland.

Evidently the small plateau at the tip of Cape Phokas is a strong candidate for the Zeus-Hera-Dionysus precinct known to Alcaeus and Sappho. Its elevation renders it visible from miles away at sea; the mainland, Chios, and Psara are readily seen from this vantage point; finally its natural harbor, quite suitable for sheltering a substantial number of ships built on the ancient scale, creates a strong initial presumption in its favor on a coast where the author was unable to discover another like coincidence of circumstances. That as late as 100 B.C. the cult of Dionysus still flourished at this site is indisputable. That there is no inscriptional evidence for the cults of Zeus and Hera can scarcely be surprising when one recalls that only two inscriptions have been recovered at this site and that the more significant of these has vanished. The traces of the large precinct, which the vegetation and the terrace bank seemed to indicate, invite a full investigation.¹⁰ Moreover, the accessibility of the sanctuary by sea, standing as it does on the route from Mytilene to Pyrrha, at a point roughly halfway in any voyage from the east to the west coast of Lesbos, makes the precinct in fact *ἐὺνορος*, common to all. When one recalls, finally, that the literary evidence attests only to altars within the precinct, the very emptiness of the sanctuary area as it now stands (with the remains of the much later temple outside of the area), encourages the observer to surmise that the traces of those three altars might yet lie awaiting discovery beneath the earth.

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¹⁰ If in fact G 2 with its "sanctuary of the beauty-contest" described the same site as G 1, one would have expected to find some trace of the *τείχος βασιλῆιον*—the "kingsize" wall—of that poem on the plateau of Cape Phokas. A careful search revealed no such remains. If a guess might be hazarded in the present state of the evidence, one might surmise that G 1 and G 2 describe two devotional stops on the voyage of the exiled Alcaeus to Pyrrha, the first at Cape Phokas with its triple sanctuary, the second perhaps at Apothēkai (pl. 128, fig. 2) within the bay of Kalloni, where a massive ancient wall shores up an area which Koldewey surmised was a sacred site (*op.cit.* [supra n. 13] 44).

* The content of this note owes much to Professor Evelyn Harrison's help. I am particularly indebted to her for all her advice and suggestions.

¹ I wish to express here my gratitude to the owners, Mr. and Mrs. Manuel Stolaroff, who not only gave me permission to publish the piece, but also sent it to me and allowed me to keep it as long as I deemed necessary for the compilation of the present article.

² (All the dimensions given below must be considered only as close approximations.)

Maximum height preserved: m.o.334

Maximum width (at locks over ears): m.o.205

Width at temples: m.o.131

Maximum depth preserved (front to back), from upper lip to back of cap: m.o.230

A MARBLE HEAD IN CALIFORNIA*

PLATES 130-131

The head illustrated in pls. 130-31, figs. 1-6, is privately owned and at present in California,¹ but its origin can be traced back to Izmir (Smyrna), whence the piece was brought to the United States in 1915. Nothing more is known about its original location, except that it probably came from the vicinity of Smyrna.

The head is life-sized,² made of white marble, and wears the Phrygian cap typical of Persians, Amazons and other "barbarians." It is preserved from below the tip of the cap to the base of the neck, which ends in a slanting surface; the head was bent toward the proper left,³ and the break from the body must have occurred approximately along the oblique line of attachment of neck to torso. The head is in one piece, but there are several cracks running through it, especially over the right side of the cap. The piece is also extensively damaged.⁴ Face and cap have been carefully finished, their surface being smooth and polished without being glossy; the hair locks, on the other hand, appear of a rougher texture. There are abundant traces of red paint over the strands on the left side.

While the left half of the head has been carefully finished at all points, its right half is only roughly sketched out. For instance, the locks emerging from under the cap (fig. 3) are indicated only in outline, by means of s-shaped slots carved with the drill; no inner details are shown, except for an additional central line marking a rough subdivision in four of the strands. Along the right side of the neck (fig. 2) there are no

Height of face, from throat to forehead: m.o.165

Maximum height of cap preserved (from apex of right curve)

m.o.168; (from apex of left curve): m.o.202

Maximum width of neck: m.o.118

Length of eye (left), from exterior: m.o.04 (eyeball: m.o.025)

Distance between eyes: m.o.027

Length of mouth: m.o.038

Distance between inner corner of eye and mouth corner: m.o.063.

The total scale of the figure should be restored as ca. m.1.70.

³ This is indicated by the different treatment of the sterno-mastoids: the right one is long and tense, the left short and contracted. There are also two incised lines over the throat, slanting upward from right to left. Further confirmation for this pose is perhaps given by the locks that emerge from under the curve between the back side of the cap and the left flap (fig. 4). These strands are mostly missing because the break runs close to the peak of the curve, but it seems that they were not rendered in great detail. This sketchy treatment is in contrast with the accurate finish of all details on that side of the head, and may indicate that at that point the hair was partly hidden by the shoulder on which the head reclined.

⁴ A large break has removed the tip and front part of the tiara, most of the forehead (preserved only at the left temple) and the right eye, ending over the utmost projection of the cheek-bone; the inner corner of the right eye remains, showing the canthus. The bridge of the nose is missing from root to tip, but the left nostril and part of the left side of the nose

detailed locks, as on the left side.⁵ The contour of face and neck is visibly marked by a groove, where the traces of the drill are still discernible in spite of the subsequent smoothing of the surface (fig. 2). Moreover, there is no exact correspondence of details between the two halves of the face: for example, the curve of the cap between the back and the right side-flap is considerably more pronounced and at a higher level than the corresponding curve on the left side (figs. 3-5). All these peculiarities suggest that the right side of the head was not meant to be visible.

This impression is supported by the strong asymmetry of features shown by the face. While the left eye is sunk normally below the level of the bridge of the nose and under the projecting eyebrow, the surviving inner corner of the right eye lies considerably further forward (figs. 1-2). The whole right cheek seems swollen and less carefully modelled than the left one. Also the lobe of the right ear, the line of the locks and the border of the cap on that side are pushed forward as compared to the corresponding elements on the left side. The inner corner of the left eye, moreover, intrudes upon the surface of the nose, forming almost an angle with the rest of the eye (fig. 5); this unusual way of carving the eye must have been adopted in order to make the inner corner visible from a side view. If the head is placed in a three-quarter position the asymmetry of its right half becomes understandable: the projection of the right cheek then becomes visible as a vague outline (fig. 6). This difference between the two halves of the face is responsible for the many, and at times contrasting, impressions the head makes when viewed from various angles: it may look broad or thin, pathetic or expressionless, distorted or perfectly regular, ugly or attractive.

This peculiar treatment raises the question whether

are preserved. A large chip has affected the chin and lower part of the left cheek, from the corner of the upper lip to the beginning of the neck. The right half of the upper lip is damaged, and so is the lower lip. Minor damages involve the locks on either side of the face, especially on the right. Various dents on the cheeks and over the entire surface of the cap do not affect the appearance of the work as a whole.

⁵ The surface is broken, however, and might have lost traces of such work. Some strands do appear along the right cheek, with probable remains of red paint.

⁶ Mithras is usually represented with the bull, but the animal appears under, not behind, him.

⁷ H. Sichtermann (*Ganymed, Mythos und Gestalt in der Antiken Kunst*, dissertation, Berlin, without date) has compiled a list of all the extant representations of the subject, from which it appears that the iconography of the Ganymede myth in ancient sculpture in the round was fairly well defined. Among the group compositions one type can be found, showing the youth standing with the eagle behind him. Ganymede's head is to the right of the bird (spectator's point of view) presenting only its proper left side to the onlooker. This position would explain the rough finish of that part of our piece and at the same time allow for the asymmetry of its features because of

this head was part of a free-standing statue or of a composition in very high relief, perhaps from a pediment or a frieze. The unfinished details of its right side would suggest that the head stood against some kind of architectural background, but a group composition might equally well have hidden that side of our statue from view. The answer lies perhaps in the nature of the piece itself and of the personage it portrays.

A clue to its identity may be found in the Phrygian cap which the head wears. This oriental head-dress was used in art to characterize several persons; it is equally appropriate to Paris, Orpheus, Attis and Mithras, but I am inclined to rule out these identifications because the myths involved do not seem well suited to frieze compositions, nor do they provide cause for close groupings which would explain the treatment of the right side of the California head.⁶ A more likely candidate for the attribution is Ganymede, who is traditionally connected with the eagle in sculptural compositions,⁷ but although this identification would account for all the peculiarities observed in the work, not one of the extant statues known to me provides a close parallel to our piece or can be considered an approximate copy of it. It is true that most of the groups are small-scale compositions of slight artistic value, while our head, for its size and quality, must have been part of an important monument. But if this is so, it is even more to be expected that the copyists of Roman times or the masters in the minor arts would have endeavored to imitate it in their works.⁸

A last possibility remains, perhaps the most likely: the personage represented (in spite of its short overlapping locks which would seem more appropriate to a youth⁹) is not male, but female. The oriental cap, the position of the head inclined toward one shoulder,

the definite angle from which the group was to be viewed. The tilt of the head is equally required by the pose, since the youth is represented looking toward the eagle. Examples of this type of composition are the statuette in the Vatican, Amelung, *Vat.Kat.* I no. 674 A, pl. 82 (Sichtermann no. 104), the statue in Venice from Istanbul, Inv. 145 (Sichtermann no. 108, pl. 8, 1), and the headless statue in Florence, Torrigiani (Sichtermann no. 121, pl. 8, 2). For a recent discussion on sculptural representations of Ganymede and the eagle see also K.M. Phillips, Jr., "Subject and Technique in Hellenistic-Roman Mosaics: A Ganymede Mosaic from Sicily," *ArtB* 42 (1960) 243-62.

⁸ A noticeable difference between the extant works and the California head appears especially in the rendering of the head-dress. In several representations Ganymede is shown with a flapless cap; in others he wears an oriental tiara, but the flaps are pulled up and tied behind the tip of the cap. Our head clearly shows that its flaps were down, almost like the cheek-pieces of a helmet.

⁹ For a somewhat similar hair-style in a woman see however the Hekate of the Pergamon Altar (Lullies, R. & Hirmer, M., *Greek Sculpture* [London 1957] pl. 242) and, to a lesser degree, the dead wife of the Ludovisi Gaul in the Terme (photo Anderson no. 3593, Br.Br. 422).

the slightly open mouth¹⁰ may suggest that the head belonged to a fallen wounded Amazon. We can visualize her as perhaps not very dissimilar in pose from the kneeling figure on the frieze of the Artemision at Magnesia, Humann, *Magnesia am Maeander*, fig. 35, extreme right.¹¹

In a group composition we may conjecture a companion or an opponent, perhaps even a horse, behind our figure, which would justify the unfinished appearance of its right side. But if the California head did in fact belong to a votive or decorative monument, architectural contexts can provide no support to determine its provenience. There are almost endless possibilities for the setting of free-standing statuary in the Hellenistic and Roman towns of Asia Minor.¹² On the other hand, Amazonomachies were among the most popular representations on friezes of temples or other structures. Before looking for an adequate architectural setting for the piece, we should however try first to determine its date.

The good workmanship and the sensitive treatment of the California head, the naturalistic rendering of the hair combined with the vaguely "classicizing" features of the face, may suggest that we are dealing with a Hellenistic original, perhaps of the late 2nd century

B.C. Some artistic and technical details seem however to indicate that the piece is a Roman work of the Antonine period, probably copying an important monument of Hellenistic date.¹³ Among such details are the strong marking of the canthus, the mannered trait of making the upper lid overlap the lower at the outer corner of the eye, the copious use of the drill, and the practice of carving the face with the flat chisel.¹⁴ It should however be noted that the same characteristics can be found in Hellenistic originals.¹⁵

A search for parallels that would help decide the chronological issue has not proved very fruitful. Among the extant Ganymede groups, for instance, several belong to the Antonine period, yet they seem to have little in common with the California head. Their treatment is more "coloristic," the hair-dos are more luxurious and dramatic, the drill is used not merely as a carving tool but as a means of creating strong effects of light and shadow, and the general execution appears colder and harsher than that of our piece.¹⁶ It is nonetheless true that works executed during the Roman period but in Asia Minor or Greece are often of a quality which ranks them with some of the best creations of the classical age; but even a Ganymede group from Ephesos,¹⁷ in spite of its considerable size, shows in

¹⁰ Although the lower lip is damaged and preserved only as a rough surface, the distance between this surface and the upper lip shows that the mouth was slightly open. The groove separating the lips is quite visible, especially deep at the left; it was carved with the drill, which has left definite round holes at the corners, the left one again deeper than the right.

¹¹ Also illustrated in Lawrence, A. W., *Greek Architecture* (Penguin Books 1957) fig. 121. This Amazon however bends her head to the right, rather than the left.

¹² A. Schober ("Zur Amazonengruppe des Attalid Weihgeschenkes," *ÖJh* [1933] 102-11) has grouped together several copies of Roman times representing Amazons, and has attributed their originals to the Attalid dedication on the Athenian Akropolis. B. Schweitzer, however ("Späthellenistische Reitergruppen," *Jdl* 51 [1936] 162ff), considers the same statues derivations from a monument set up in Asia Minor. In either case, if the style of the originals can be safely inferred from these Roman copies, it seems to be quite different from that of our head.

¹³ I owe this suggestion to Professor Evelyn Harrison. If our head is really a copy of an earlier work, the possibility of its belonging to a frieze is considerably lessened.

¹⁴ This is especially evident near the cheek-bone in fig. 5.

¹⁵ A strongly marked canthus can be seen for instance in the head of Alcyoneus (Lullies & Hirmer, *op.cit.* pl. 244) and other figures from the Pergamon Altar (*Altertümer von Pergamon* III², pls. xxv-xxvi), the heads of Attalus I and of Alexander the Great also from Pergamon (Bieber, M., *The Sculpture of the Hellenistic Age* [Columbia Univ. Press 1955] figs. 454-57; *Altertümer von Pergamon* VII, pls. xxxi-xxxiii), a Hellenistic male head in the British Museum (Bieber, *op.cit.* fig. 72), etc.

The overlapping eyelid can be found in many Pergamene sculptures (e.g. Schober, A., *Die Kunst von Pergamon* [Wien 1951] fig. 10; or some of the figures from the Great Altar), in the Ptolemaic portraits from Egypt (e.g. Bieber, *op.cit.* figs. 336-39; 361-63) or in the female head with the Isis head-dress in Alexandria (Adriani, *Testimonianze e Monumenti* II, pls. 1-2), in a Late Hellenistic piece from Cyrene (Paribeni, E., *Catalogo delle*

Sculture di Cirene [Rome 1959] p. 105 no. 285; pl. 138), the Aphrodite of Melos (*Encyclopédie Photographique de l'Art*, Louvre III, p. 203) and other famous monuments.

Locks carved with the drill are seen in many of the figures on the Pergamene Altar and in almost all the examples already cited. The cursory finish of the strands on the right side of the California head may suggest that the running drill was employed, a tool which finds its largest application in Roman times; but where more careful work was required, on the locks of the left side, the common drill was used. Several holes were bored, one next to the other, and then connected to form a continuous groove; however, in some of the curls the outlines of the original holes are still visible and appear considerably smaller in diameter than those left by the instrument used on the right side.

The use of the flat chisel, though greatly favored by Roman copyists, was already introduced in Late Hellenistic times and can be detected in unfinished parts of the Telephos frieze in Pergamon, and in several sculptures in the round from the island of Rheneia (Blümel, C., *Greek Sculptors at Work*, transl. L. Holland [London 1955] 64-65, fig. 50; p. 70. It is interesting to note that in both the Rheneia and the Pergamon monuments the use of the flat chisel is accompanied by that of the running drill).

¹⁶ For instance, in the California head what remains of the left eyebrow shows that it is formed by the meeting of two planes, but the consequent line is not sharp. The eyelids are edged by a tiny ridge to set them off from the eyeball, but the final effect is delicate and gives almost a *sfumato* appearance. The outlines of the lips, as far as preserved, are also slightly rounded, rather than acute, edges.

¹⁷ Sichtermann no. 257, pl. 12,1; Phillips, *op.cit.* (supra n. 7) fig. 22. The statue is headless and it could be assumed that the California piece once belonged to it. Unfortunately its dimensions do not tally with the requirements of our head. The height of the whole monument is given as m.1.70 (Lucas, *ÖJh* 9 [1906] 269ff), but since the eagle towers above the youth,

parts a rather careless treatment of details. On the contrary, if we can surmise the quality of the whole monument from that of the California head, no such superficiality prevailed in our work.¹⁸

If Roman works do not appear very close to our piece, neither do, unfortunately, Hellenistic originals. It is relatively easy to find faces which combine rather cold and smooth facial features with realistic treatment of hair and eyes,¹⁹ but they are not really similar to the California head. Closer, perhaps, is the head of a statue of the *Pudicitia* type from Magnesia: the lady's name is inscribed on the base and helps date the work in the 1st century B.C.²⁰ One possible comparison is controversial and should perhaps be omitted: the Demeter of Cnidus. The latter is generally considered to be a 4th century original, however; as far as I know, only Professor Rhys Carpenter has suggested²¹ that it may date from ca. 100 B.C. On the other hand, it seems unlikely that our piece could belong to the 4th century B.C. This notable lack of cogent parallels enhances the importance and originality of the California head.

The extant architectural monuments of the area around Smyrna do not help in dating our work, even if we leave the chronological problem open and include in our examination structures that range from the Hellenistic period to the 2nd century A.D.

The scale of the California head is so large as to make it unlikely that it might have belonged to a temple frieze, since no building of adequate proportions is known from this area and period; nor do we know of temples adorned with pedimental sculptures. There remains the possibility of a frieze decorating an altar, a stage front or a similar structure. But although such monuments exist at Magnesia, Priene and Ephesos, they do not satisfy the requirements of our head, in scale, subject matter and architectural arrangement of their decorations.²²

Since we are left without external evidence, we can only resort to reasonable suppositions as to original location. Both Pergamon and Ephesos appear as probable candidates: both are geographically close to Smyrna, and their prosperous conditions during Hellenistic and Roman times make them a likely setting for any monu-

ment of importance, whether a structure decorated with an Amazonomachy, or a decorative free-standing group.

To recapitulate: this note presents an unpublished head in a private collection in California. Certain technical details make it evident that one side of the head was not visible to the spectator, hence the piece must have been part of a group or of an architectural decoration in very high relief. Among the various possibilities for an identification of the subject based on the oriental cap, the most likely seems that the head belonged to an Amazon: a companion, an opponent, or a horse might have stood behind our figure, forming the second element of a group, or the California head might have been part of an Amazonomachy frieze. No evidence, architectural or otherwise, is available to determine the original location of the piece. It can only be surmised that, since the head comes from the vicinity of Smyrna, the monument once stood either in Pergamon or Ephesos. The good quality of the work and certain stylistic traits would suggest that it dates from the Hellenistic period, perhaps toward the end of the 2nd century B.C., but the possibility that it is instead a good Roman copy of a Hellenistic original, probably from the Antonine period, cannot be excluded. This note proposes mainly to present all the available evidence and to call attention to this interesting piece in order to promote a more competent and positive study of its problems.

BRUNILDE SISMONDO RIDGWAY

BRYN MAWR COLLEGE

UNCOVERING THE HISTORY OF THE ROOF OF THE WORLD

For many years archaeological studies have been made in the Eastern Pamirs, a cold and windswept desert between giant mountain ranges at more than 4,000 meters above sea level. But perhaps none of the previous expeditions has so abounded in interesting finds as this year's, when we concentrated on a Stone Age camp situated in the most rigorous area of the North Pamirs, the valley of the River Markan-su. Study

the scale of the human body must be appreciably under m. 1.70 while the California head must have belonged to a figure of that size (see *supra*, note 2).

¹⁸ The artist even took pains to animate the vast monotonous expanse of the tiara, indicating at the same time that it was made of soft material: he rippled its surface in four large waves over the left side. These waves are clearly visible in fig. 5 which shows the head photographed under strong lighting in order to bring the rippling into evidence; under normal lighting conditions this detail is barely noticeable. Miss Harrison tells me however that this refinement of surface is typical of Antonine portraits.

¹⁹ For instance, the Athena by Eubulides (Richter, G. M., *The Sculpture and Sculptors of the Greeks* [Yale Univ. Press 1950] fig. 765), dated ca. 130 B.C., or the heads of several statues from Thasos and Kos (*JdI* 27 [1912] pl. 11a, pp. 12f; R. Horn, *Stehende weibliche Gewandstatuen* pl. 22; *Clara Rhodos V* [1932] pls. IX-XIII, figs. 21-25), made ca. 100 B.C.

²⁰ Baebia, daughter of Q. Baebius and mother of the Pro-

consul L. Valerius Flaccus. Humann, *Magnesia*, fig. 198, pp. 198f.

²¹ *MAAR* 18 (1941) 71; Carpenter, *Greek Sculpture* (Chicago 1960) 213f.

²² In the Ephesos theater the eclectic decoration of the *logeion* utilized sculptural types of different epochs, with figures carved in very high relief against square pillars, approximately m. 2 high (Eichler, F., "Eine neue Amazone und andere Skulpturen aus dem Theater von Ephesos," *ÖJh* 43 [1956-58] 7-18). However, the sculptures are represented *en face*, while the California head should be viewed from a three-quarter position. Furthermore the figures were set within an architectural frame which required a flattening of their skulls, so that their heads terminate along a horizontal line. On the contrary the cap of our piece came to a very definite peak, now missing because of the damaged condition of the work. (The head-dress should be restored as coming to a point toward the left of the head, and then bending its tip over toward the right, as suggested by the asymmetry of the extant parts of the tiara.)

of this camp, called Osh-khona after the small river near which it stands, was started last year, although work was made very difficult by strong cold winds at times developing into fierce sand storms. This year we worked in much better conditions, as the weather was unusually quiet.

We dug up at Osh-khona more than 500 square meters of the layer which contained traces of habitation of primitive man, such as implements, campfire sites and animal bone fragments. A very interesting collection of implements dating back to the last period of the Stone Age was found. A study of these implements made it possible to establish that the camp existed in the eighth to the fifth millennium B.C. Soon this period will be specified. Ash specimens from campfire sites have been sent to the Leningrad laboratory of the Institute of Archaeology of the USSR Academy of Sciences, where their age will be determined by the latest methods of carbon-content analysis.

How could people dressed in animal skins and equipped with primitive stone and wooden implements live in this cold austere area? Is it that the climate was milder then?

Archaeologists' attention was attracted to the fact that in most cases the campfire sites were open on all sides, whereas now it is impossible to build a fire without a windshield. This led them to suppose that the winds were not so strong at that time. Besides, the ash in the sites was found to be partially of wood origin. Today, you never see a tree in the area.

Very interesting results are expected from the study of the animal bones. It has been established that prehistoric people successfully hunted not only small animals, such as marmots and hares, but also large ones, such as mountain goats. Indeed, the entire collection of implements shows that it was a camp of hunting tribes. Evidence of this is furnished by crude but very clearly distinguishable arrowheads and numerous scrapers with broad, carefully-finished edges, which were used for cleaning skins. More than two hundred such scrapers have been found. Of great interest also are awls which were used to sew skins together.

We also found, for the first time in Tajikistan, ornaments used in the Stone Age by both women and men: four bone beads with very accurate holes, and bone pendants. Other interesting finds include a bone fragment with a wavy ornament.

Excavations have shown that the banks of the Osh-khona were inhabited by several generations: in all, we found four culture layers separated by sterile layers, i.e., layers containing no trace of man's activity.

The collection of Stone Age finds at Osh-khona during a two-year period is one of the richest in Central Asia: the total number of finds already exceeds 10,000. Work conducted in 1960 confirmed the fact that the first inhabitants of the Eastern Pamirs came there from the east and were closely connected with the early neolithic tribes of Middle China, as well as the Altai, the trans-Baikal area and Mongolia.

Until recently only separate and not very convincing finds were made, testifying that the Pamirs plateau was populated also in the following historical epoch,

the Bronze Age. This year the Pamirs' first Bronze Age camp was found not far from Murgab. Thanks to the absolute absence of moisture, things were preserved which usually do not last—among them chips of wood and even wool.

A unique find was a small stone arrowhead the base of which still had the willow or poplar bast which fastened it to the shaft. We also found fragments of pottery analogous to finds at the sites of the so-called Kairak-Kum culture in North Tajikistan, two excellently cast bronze arrowheads and, to the archaeologists' surprise, a wild boar's tooth. Of great interest were symbolic signs and stylized images of people painted in ochre on the wall of the grotto where the camp was situated.

A wealth of data was also obtained this year on the early Iron Age (first millennium B.C.). For the third season in succession the Institute of History has been studying early nomadic monuments. Most research was conducted this summer in the Khargush and Tegerman-su burial grounds. The former is situated on the right bank of the River Pamir, the latter on both banks of the River Tegerman-su in the area of Kzyl-Rabat. The Khargush-2 burial proved to be an especially rich find.

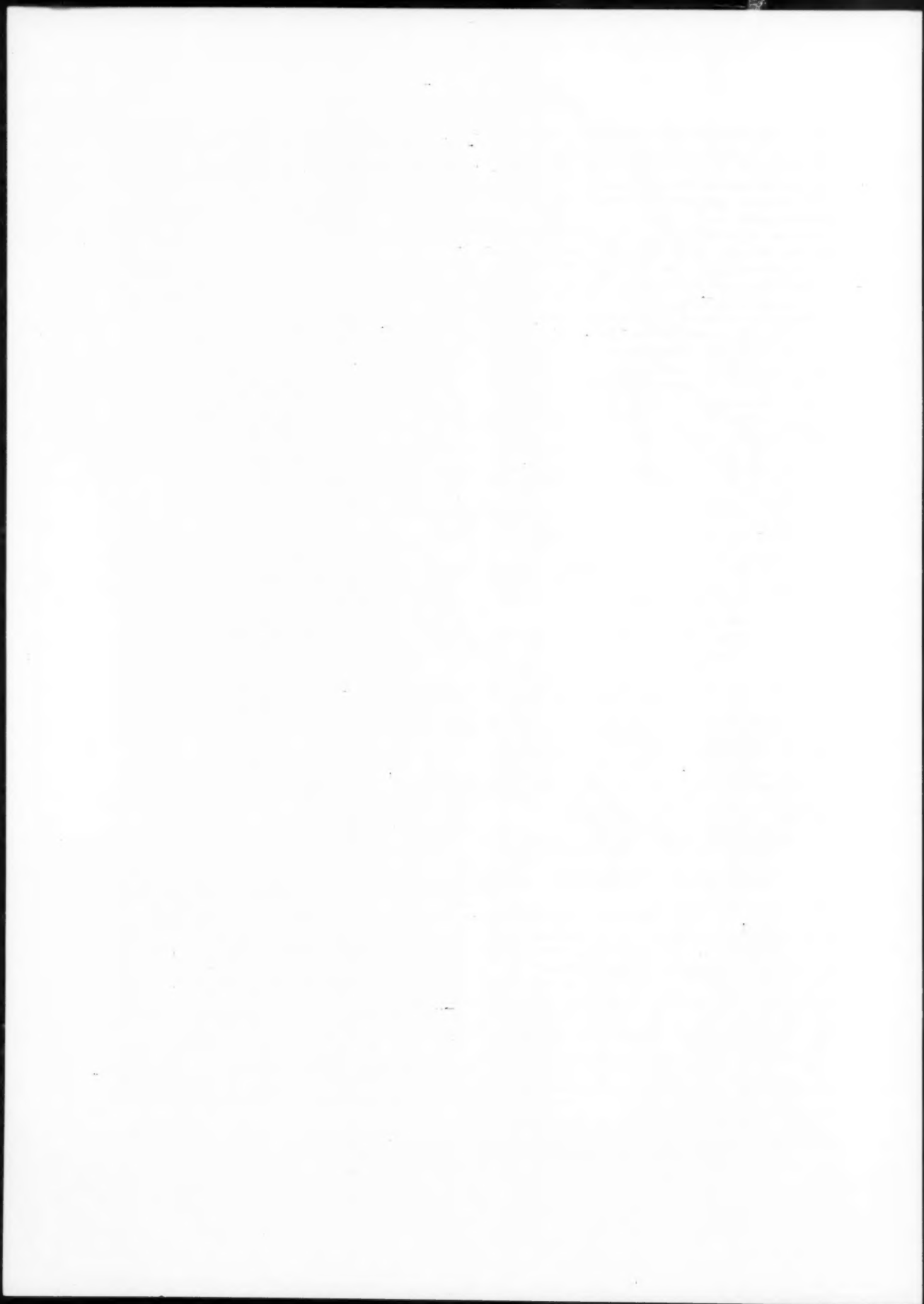
Conditions for work were made very difficult by the piercing winds and the dust, but we were rewarded with very interesting finds. There was a rich grave of a woman. Near her head stood two very attractive bronze pots, one of which was in a leather bag. The handles of the other pot bore images of mountain goats standing erect. There were red beads around the woman's neck, two bronze bracelets on each arm, and two bronze rings on the fingers, one in the form of a signet, and the other a flower with four petals. Bone ornaments lay on her chest. To the left and right lay two skeletons with almost no ornaments or articles, probably those of the woman's servants.

Each mound brought something interesting: bronze buttons and buckles; agate and cornelian beads; iron knives, daggers and axes; weapons of the Sacae, ancient nomads. The Tegerman-su mound surpassed all expectations. It contained graves of warriors, women and children—the latter in boxes containing interesting finds. The skeletons of sheep lying beside those of humans indicated that livestock-breeding was practiced there. The horns of mountain goats and skulls of mountain turkeys showed that hunting played an important role in their life. There is no doubt that goats were especially respected; this is clear from the number of horns found in the graves and the drawings on a bronze pot. In special cases these animals were probably sacrificed. Exquisite articles made from bronze, iron, wood, bone and semiprecious stones testify that the Sacae were skilled in many crafts.

The finds this year are added confirmation of the theory, advanced by Tajik scientist B. A. Litvinsky, about the Sacae's movement to India through the Pamirs (the so-called Pamirs version of the Sacae's route).

PAMIRS ARCHAEOLOGICAL
EXPEDITION, U.S.S.R.

V. RANOV
M. BUBNOVA



BOOK REVIEWS

Authors and publishers are respectfully requested to note that all books for review must be sent directly to the review editors: for Old World archaeology to Miss Dorothy K. Hill, The Walters Art Gallery, Baltimore 1, Md.; for New World archaeology to Dr. Richard B. Woodbury, Department of Anthropology, University of Arizona, Tucson, Arizona. The review editors will be glad to receive any suggestions from authors as to names of possible reviewers. Under no circumstances should a book be sent to a specific reviewer.

KLEINASIEN, by *Albrecht Goetze* (Handbuch der Altertumswissenschaft, III, 1: Kulturgeschichte des Alten Orients, III, 1). Pp. xvi + 228 with folding map and 20 pls. C. H. Beck, Munich, 1957.

The first edition of this work appeared in 1933; it was immediately hailed as the best treatment of the subject available in any language—in fact it was the only comprehensive survey of Anatolian archaeology and cultural history written by a specialist in Hittite studies. During the Second World War the edition was exhausted, but editor and publisher agreed to ask the author to prepare a second edition, completely revised and rewritten. The result is entirely satisfactory, since the author had not only continued his magisterial Hittite research but has been able to visit Turkey repeatedly, keeping in the closest personal touch with the progress of research in that country. The only discordant note which the reviewer can sound is to express his regret for the delay in finishing this review (in March, 1961).

Professor Goetze has spared no pains in bringing this volume up to date. In four closely printed pages of *Nachträge* he includes everything of importance which had come to his attention after the text was completed at the end of 1955. Even the excellent survey of Anatolian archaeology published by Seton Lloyd the following year (1956) as a Pelican Book is included. The reviewer's comments will be limited to still more recent finds and publications, as well as to his own observations during three months in Turkey at the end of 1956. Owing to pressure of work combined with ill health, he has not yet found time to publish various archaeological investigations begun at that time.

By far the most sensational advance in Anatolian archaeology since 1956 has been James Mellaart's discovery of Pre-Pottery Neolithic at Hacilar in the southwestern part of the peninsula of Asia Minor. In 1960 Mellaart continued excavations which had been previously begun into levels antedating the introduction of pottery. Below some seven successive strata belonging to Pottery Neolithic he found the eroded and denuded surface of a Pre-Pottery mound which had obviously been abandoned centuries before the settlement of the first users of pottery. Construction and mode of life in the five feet of Pre-Pottery Neolithic were strikingly similar to the second and later phase of Pre-Pottery Jericho, thus confirming the already virtually certain fact that this phase of prehistoric culture extended over

the entire Near and Middle East. According to Mellaart the Pisidian lake country around Hacilar is rich in sites extending from Mesolithic to Chalcolithic. It looks very much as though Asia Minor were about to become a key area for the reconstruction of the earliest stages of human sedentary life.

A few remarks on the present status of comparative archaeological chronology during the Early Bronze Age may be useful. In general one cannot cavil at Goetze's relative chronology for this period. Attention should be called to the fact that the chronology of Early Bronze in Asia Minor is now closely tied to Egyptian dynastic dates. The author's discussion of the chronology of Troy II and of the royal tombs of Alacahöyük (p. 40) requires some modification in the light of this situation. The reviewer agrees that Alaca is roughly coeval with the Khirbet Kerak ware of Palestine and Syria, which is dated in his *Archaeology of Palestine* between ca. 2600 and 2400 B.C. Since the duration of this ware in Palestine need not have exceeded a century, these are simply limiting dates, corresponding to the fact that Khirbet Kerak pottery appears in deposits of Early Bronze IIIA (Wright's terminology). This phase of Early Bronze is, in Palestine, contemporary with the Third-Fifth Dynasties in Egypt, the minimal date for which is ca. 2600-2300 B.C. Amuq H in northern Syria was roughly contemporary with the latter part of Palestinian Early Bronze II (the first two Egyptian dynasties, the minimal date for which is about 2850-2600 B.C.). It also reflects Syrian offshoots from Jemdet Nasr sources of about 3000-2800 B.C. (again minimal dates). In short, Alacahöyük III (with the royal tombs) should be dated between ca. 2700 and 2400, using extreme dates in accord with minimal Egyptian chronology. This is supported by points of contact recognized already by the first excavator of Alaca, Hamit Koşay, with the Royal Tombs of Ur (minimal date in the 25th century B.C.) and Troy II. In the latter case Mellaart has again given us a solid basis for comparative dating by his publication of selected pieces from the burial treasure of Dorak (*Ill. London News*, Nov. 28, 1959), which includes a gold fragment with the name of Sahure, who reigned about 2400 B.C. according to the minimal chronology. In view of the close relationship of Dorak and Troy II, this find apparently dates Troy II a little before or after the importation of an Egyptian piece which was made about 2400 B.C. Troy II would then fall between ca. 2500 and 2300 (low chronology) instead of ca. 2800-

2500 with the author. It must again be stressed that his absolute chronology may be correct, but that Egypto-Palestinian, Syro-Palestinian and Syro-Mesopotamian comparative chronologies must all be raised two or three centuries above minimal dating, in order to validate this high chronology. In the reviewer's opinion this is a risky procedure, especially in view of many radiocarbon counts from the fourth and third millennia.

The discovery by Tahsin Özgüç of an Assyrian seal cylinder of the Accad period at Karahüyük (the acropolis of Kültepe, ancient Kanish), now published by Nimet Özgüç, and the latter's collection of impressions of seal cylinders made in imitation of the royal seal of Ibî-Sin, last king of Ur III, have enlarged our horizon. It is now clear that the traditions underlying the famous epic of the King of Battle were substantially correct, and that the merchants of Accad did indeed begin trading with Kanish as early as the 23rd century B.C. (or even a little earlier) and that trade continued actively under Ur III, until it was taken over and greatly expanded by the Assyrian merchants of the 20th-18th centuries B.C. (minimal chronology, with the end of Kültepe Ib about 1720 B.C.). The author's masterly survey of the culture of the Cappadocian tablets (pp. 64-81) is unaffected, except to consolidate the historical picture (his dates are higher than our minimal position, as is well known).

Goetze's account of the cuneiform Hittite culture is magisterial in every sense of the word (pp. 82-183), and will long remain authoritative, even after the purely archaeological sections of the book have been antiquated by new discoveries. In the reviewer's opinion, after a prolonged study of the stratigraphy of Middle and Late Bronze Alacahöyük (for which he wishes to thank Professors Hamit Koşay and Tahsin Özgüç, without whose assistance he would have been unable to make headway) and of the typological place of the sculptures of the Sphinx Gate, these extraordinary remains (p. 177) are the oldest monumental pieces of Late Hittite art yet found (aside from individual reliefs published by Kurt Bittel and his associates, found at Boğazköy or in the neighborhood). They should almost certainly be dated in the fifteenth century, probably in the second half.

The reviewer wishes to state his virtually complete agreement with the author's reconstruction of the geography of Anatolia during the Late Bronze Age (Hittite Empire). He accepts also Goetze's definition of Kizzuwatna as roughly including eastern Cilicia and Cataonia. On the other hand, it seems improbable that the "Arzawa Lands" extended so far into the interior. Arzawa itself the author equates with Pamphylia; the reviewer would insist on including western Cilicia, on both sides of the Calycadnus Valley, which was the principal artery carrying the trade of Syria to western Cappadocia. It may be observed that the seaport, Ura, in Hittite, Ugaritic and Neo-Babylonian texts is almost certainly located at or near Selefk (Seleucia) in the Calycadnus delta. The common identifi-

cation of Ura with the Cilician sanctuary at Olba is the result of a mistake made by Theodore Bent, who misinterpreted the Turkish name Oğuralan, literally "field of good luck," as an "Oura" (failing to hear the glide between the first two vowels and evidently explaining the last three phonemes as morphemic elements). (The reviewer made this observation while studying the Turkish military maps in the autumn of 1956; Bent used *u*, not *ou*, to render the sound *u* = French *ou*.)

Goetze's very hesitant identification of Ahhiyawa with Mysia and the Troad (so presumably) on p. 183 and the map (where two question marks are employed) is probably wrong, in the reviewer's opinion, but may be bolstered by data still unavailable when Goetze wrote in 1955. Mellaart has pointed out (*AJA* 62 [1958] 9-33) that the appearance of Minyan pottery in massive quantity both in Middle Bronze Troy and in mainland Greece strongly suggests ethnic connexion between the two. His view that the Hellenes migrated from the Danube basin to Greece proper via the Troad does not commend itself, but if there were two separate prongs which brought the Hellenic invaders into Greece and northwestern Asia Minor about the 18th century B.C. (low chronology), it would be only natural for the two Hellenic settlements to remain on close trading terms for centuries. The discovery of so much Late Helladic ware at Troy would confirm this interpretation. Moreover, the decipherment of Linear B has proved that many of the Trojan names found in Homer were also current in thirteenth-century Pylos and Knossos.

The author's present position on the antiquity of the Luwian language and culture in western and southern Anatolia (pp. 60f) is thoroughly sound and is supported by mounting evidence. As a minor illustration the reviewer may cite his own discovery of the well-attested Lycian name *Kuk(k)un(n)is* as that of the son of a "Lycian" on a Byblian stele composed in Egyptian hieroglyphics about the 21st century B.C. (*BASOR* 155, pp. 33f).

W. F. ALBRIGHT

THE JOHNS HOPKINS UNIVERSITY

THE FACE OF THE ANCIENT ORIENT, by *Sabatino Moscati*. Pp. xvi + 328, figs. 6, pls. 32. Quadrangle Books, Chicago, 1960. \$6.00.

Sabatino Moscati's latest book is, as he describes it, "a panoramic survey . . . of the ancient Orient as a whole," an attempt to compare "the essential and characteristic features of the ancient Oriental civilizations." Originally prepared in 1955 as a series of lectures for Italian Radio, the manuscript was revised, annotated, and published in Italy under the title *Il profilo dell' Oriente mediterraneo*, and now appears in English translation.

After briefly describing the geography of the Near East and outlining the prehistory of the Fertile Crescent, Moscati rapidly surveys the chief cultures of the

region from about 3000 B.C. to the conquest of Alexander: Sumerian, Babylonian and Assyrian; Egyptian; Hittite and Hurrian; Canaanite and Aramean; Israelite; and Persian. For various reasons, the author does not consider the civilizations of Crete and Mycenae in the west, South Arabia in the south, and the Indus Valley in the east. Each culture is systematically analyzed in terms of (1) political structure and history; (2) religious beliefs and practice; (3) literary genres; and (4) art. Comparisons of the various responses to these aspects of culture are emphasized throughout, with the result that this book exhibits a unity not often found in general works of this type.

It should be obvious that the task to which Moscati has set himself is an extremely difficult one because of its interdisciplinary nature. Fortunately, he has avoided many pitfalls by relying on leading specialists for his data and for many of his interpretations and conclusions. Yet it is precisely in this area that he is most open to criticism. Some of his generalizations are oversimplified and lack the necessary qualifications. For example, Moscati holds that "the building material is determined by the nature of the soil, and in turn determines the architectural (sic) style" (p. 50). This view recurs throughout. Most students of architecture will admit that this is in part true, but only in part. Architectural style is a complex of many factors, some of which play a far greater role in its development than the kinds of material readily available. In the history of architecture, mud brick has been used in a great number of architectural styles. The particular style chosen and developed by the Sumerians, for example, was one which suited their environment, was in keeping with their traditions, adequately expressed their artistic sense, and served the needs of the individual and the community. This sweeping conclusion may be explained by the fact that Moscati is primarily a philologist rather than an archaeologist or historian of art and architecture. Yet some of his generalizations regarding those aspects of culture, the knowledge of which is based on textual material, are similarly overdrawn.

The fact remains, however, that this is one of the best semi-popular books on the ancient Near East that has appeared to date. Specialist and student alike will find it both stimulating and interesting. From the point of view of content and organization, it is well suited for use as supplementary reading in undergraduate courses in ancient history in which an attempt is made to offer something more than an outline of historical events.

GUS W. VAN BEEK

SMITHSONIAN INSTITUTION

A DICTIONARY OF LIFE IN BIBLE TIMES, by W. Corswant, completed and illustrated by Edouard Urech, translated from the French by Arthur Heathcote. Pp. 309. Oxford University Press, New York, 1960. \$6.50.

This book is not intended for advanced students. "It was intended to be of most direct service to all who are engaged in the religious instruction of young people" (p. vii). The eleven hundred entries are in non-technical, concise language. There are no bibliographical references, but Bible references indicated at appropriate places in the text are given at the end of each article. "Every outward and visible aspect of the personal, social, and religious life of the Israelites and early Christians is treated, together with such associated topics as the fauna, flora, and minerals of Palestine" (p. vii). Under COVENANT agreements between men are discussed, but not God's covenant with Israel or the "New Covenant" mentioned in the New Testament; the INHERITANCE of property by individuals is discussed, but not the inheritance given to Israel or the Christians; the LAW as it governed human relations receives attention, but not the Law as a theological issue. It is not so easy to explain why the article on POTTERY does not refer to its use in archaeology for fixing chronology.

One must consider where to find a subject; good information on papyrus, for example, is included under WRITING. The treatment in some cases is meager or vague; this is all that is said under COLLECTION: "In conformity with the practice of Jewish 'collectors of alms,' St. Paul organized collections for the poor Christians of Jerusalem." (But under ALMS we find a good, informative discussion which covers the collection topic.) On p. 72 an article on Seraphim is promised but it is not given.

Under EXORCISM two New Testament passages are cited for fasting as an aid in exorcism; but the critical text of these passages does not refer to fasting. What of the statement (in the article on COCK) that the "prime purpose" in raising cocks was to waken people? Cocks often crow more than once, during the night. Would not this make them an unsatisfactory alarm clock?

For the purpose in mind, the book should be useful. There are a great many articles filled with specific and useful information (COLOURS, OFFICIALS, TEMPLE). The drawings of floor plans, site contours, pottery, plants, animals, jewelry, weapons, coins, furniture, occupational activities, etc. are instructive.

FLOYD V. FILSON

McCORMICK THEOLOGICAL SEMINARY

CYRENAICAN EXPEDITIONS OF THE UNIVERSITY OF MANCHESTER, 1955, 1956, 1957, by Alan Rowe. Pp. xiv + 34, figs. xiv (plans) 3 in text, pls. 42 + 4 (color). Manchester University Press, Manchester, 1959. 42 shillings.

Since the days of Pacho and the brothers Beechey in the early nineteenth century, the extensive cemeteries of Cyrene have attracted archaeological visitors and expeditions (including that of Norton, *AJA* 1911),

as well as activity on the part of the Italian excavators of the ancient city. In the past decade, new efforts to classify and to plan the tombs have resulted in the publications of Mr. Rowe and his associates plus a valuable general study by John Cassels (*PBSR* 1955). The present volume, a sequel to that issued in 1956 on the first Manchester campaign of 1952, reports excavation of a "late fifth(?) to fourth century B.C." round masonry tomb in the Eastern cemetery and of a considerable number of rock-cut tombs or sarcophagi in the northern necropolis, mainly Ptolemaic with later intrusions. New plans and photographs of the rock-cut tombs of the sixth century B.C. which border the road below the Cyrene Museum are also provided, as are useful plans of the Temples of Hades and Persephone excavated by the Italians in the Apollo sanctuary.

This publication is in no sense a final, argued synthesis of the results of a series of archaeological campaigns, but rather a survey in outline form of the work accomplished so far and a listing in shorthand description of the objects unearthed in 1952 and subsequently, almost without reference to comparative material or detailed chronology (save in a section by John F. Healy devoted to coins). There is generous visual documentation in a sequence of excellent plans and in numerous photographs of uneven quality in which the smaller, especially ceramic finds are reproduced together as tomb groups. Since the nature of this report makes it of interest only to specialists, Cassels' survey is not superseded for an informative introduction to the necropolis of Cyrene. Thus it is surprising to note details one might expect in a book written for the general public, e.g. in a photograph of a red-figured fragment representing a herm the genitalia have been painted out; in an exceedingly brief discussion of the "presumed cult of Persephone in Cyrene," it was considered necessary to epitomize the myth from various classical dictionaries.

In the latter connection, one would have welcomed fuller discussion of the Cyrenaican funerary statues of a draped female figure given at half-length, sometimes veiled and frequently with a columnar, featureless head. The expedition has added important examples to those previously known. Rowe takes his stand with Chamoux (*Cyrène sous la monarchie des Battiades*, 1953) that they represent Persephone and that the aniconic representation of the goddess "was a survival of an animistic drum-like stone of some Libyan underworld goddess . . . assimilated to Persephone." No mention is made of other theories which have been put forward, nor of significant images of related type such as a half-length tomb figure of a young girl in Vienna, or the half-length statues of veiled women used over grave cellae in Thera and Anaphe (see Benndorf, *JOAI* [1898] 1-8).

PHYLLIS PRAY BOBER

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THE STUDY OF GREEK INSCRIPTIONS, by A. G. Woodhead. Pp. 139, figs. 3, pls. 4. Cambridge University Press, 1959. \$4.50.

This review is late in appearing—fortunately, perhaps, because I have had the benefit of using the volume, intended as an introduction to the study of Greek inscriptions, in my epigraphical seminar with students beginning the subject. Thus, I can report that the work admirably fulfils its purpose: the editor of *Supplementum Epigraphicum Graecum* has provided us with the first introductory manual on the subject in English for over fifty years.

The book was written with the historian in mind, but since every branch of classical scholarship now involves the study of inscriptions, Mr. Woodhead's work may be recommended to any scholar who wishes to appreciate and understand the problems of Greek epigraphy.

A healthy feature of the book is its sober conservatism with regard to its subject. There is even a section titled "Ethics and security of restoration" (p. 74). The beginner, as well as the most advanced specialist, cannot be told too often that he must remove from the mind's eye all but the preserved portion of a fragmentary text when he approaches it for study. All too often the epigraphist gives a warning about the part of a text between square brackets, then proceeds to pyramid theory upon theory on just such parts. How often has the discovery of a new fragment confirmed previous restorations of a fifth century inscription? (I do not refer to formulaic Hellenistic inscriptions.) I always begin my epigraphical seminar with the assignment of a relatively recently discovered fragment relating to the tribute lists, which has been an area of intense research activity, where the new fragment disproved virtually all previous conjectures, including, in particular, estimates of the physical dimensions of the original document.

A few individual points call for remark. The date in Attic decrees is not given "according to the lunar calendar" (p. 57), but according to the archon's calendar, which might or might not be identical with a calendar based on lunar observation.—The new edition of *IG* is not known as an *editio altera* (p. 98) but as *editio minor*: the connection might hardly seem worth mentioning, but for the fact that the title well illustrates a different philosophy of editing texts. Probably no greater improvement in epigraphical studies could be made than to revert to the old practice of presenting to the scholar's eye a reproduction of the evidence on the stone—in minuscule to be sure because printing costs are high—but without the misleading practice of printing the restored portion on the same line in the same type.—I agree with Woodhead's comment concerning squeezes of liquid rubber (pp. 80-81); he might also have pointed out their advantage for photography if properly used. If an editor would publish photographs of latex squeezes for critical letters, this might establish the measure of doubtfulness or certain-

ty, and, in addition, might serve as a restraining influence on an editor's report of what he has seen.—With regard to the theory of a regular prytany calendar, for which I am chiefly responsible, Woodhead states (p. 117): "But it must be admitted that to impose this form of regularity also demands some degree of assumption that a number of texts, as we have them, are incorrectly engraved." In a count of 67 inscriptions containing so-called calendar equations in the period 341-307 B.C., I note that no editor has assumed fewer than four errors; some have assumed six. I assumed five, which amounts to seven per cent. If we limit our count to examples where at least two of the calendar elements are sufficiently preserved on the stone to be determined with certainty, the ratio of error becomes 13.5%. When this fact is coupled with the arithmetical mistakes in important fifth-century financial documents, this evidence of error takes on a new significance for the pitfalls of restoration.—With regard to stoichedon style, treated in chapter III, I suspect that far fewer inscriptions were cut in a *rigid* stoichedon pattern than W.'s discussion would imply. Whereas Kirchner in the *editio minor* labels literally hundreds of inscriptions as "stoichedon," in fact the majority exhibit sufficiently numerous deviations from a rigid pattern to make it unreasonable to assume that the stone-cutter had drawn out a grid before cutting the text. We are still in need of statistical information on the frequency of true stoichedon inscriptions.

W.'s command of his subject is masterly, and this useful handbook will provide many people with access to an important branch of classical scholarship.

W. KENDRICK PRITCHETT

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MARATHON, by W. Kendrick Pritchett. (University of California Publications in Classical Archaeology, Volume 4, No. 2.) Pp. 137 — 190, plates 6 — 17, 1 map. University of California Press, Berkeley and Los Angeles, 1960. \$1.50.

In his fifth topographical study of an ancient battle, Pritchett considers Marathon: the sources, the site, and the reconstruction. He relies primarily on Herodotus and Pausanias; they receive a substantial assist from Suidas, s.v. *χωρίς ἰππείας* (cf. Schachermeyr). Nepos he "jettisons" altogether; consequently, on 145, n. 53, in default of Nepos, *Miltiades* 5.1, he is reduced to citing Trogus (whom he had dismissed *AJA* 63 [1959] 259) and the controversial Plutarchian *Parallela Minora*. P. further sees that, if *SEG* 16.139 indeed copies *SEG* 16.22, the first "Marathon" epigram is inappropriately named; perhaps it refers to Salamis (cf. Gomme; see now Amandry in *Festschr. Schuchhardt* and Peek, *Hermes* 88 [1960] 494-98).

For the Athenian camp in the Herakleion, *μυχῇ ἐν Μαραθῶνι*, P. accepts Sotiriadis' rubble enclosure, north of Hagios Dimitrios. (The evidence for its

identification is hardly conclusive; a relevant inscription, *SEG* 10.2, was found more than a mile east.) The Persians stationed themselves, according to P., near the site of the tumulus. (Why? This was at least 2¼ miles from their anchorage, off the Schinia.) Eventually they embarked by night with all their cavalry, leaving only a rearguard (cf. Grundy). Ionians in the Schinia telegraphed this intelligence to the Athenians. (Doubtful. The Herakleion was at least 3½ miles away; before dawn a signal would be difficult, after sunrise, impossible.) The Athenians drew up their battle-line near their camp; the evidence, says P., does not permit us to specify the orientation of the opposing lines. Thereupon the battle proceeded as outlined by Herodotus.

There is much good here, not the least being P.'s extensive autopsy. He has scoured the area for remains, and has recorded his discoveries (note especially the archaic tumulus, 154). Moreover his account is the first in English to utilize the results of Sotiriadis' excavations; thus he notes that Vrexisa was probably dry in antiquity. He shows that *ὡς ἀριθμούντο* (Hdt. 6.111) means, not "in official tribal order," but "in the order in which the roll was called"; the full battle-order is irretrievable.

Yet, as indicated above, there are serious criticisms. The text is marred by frequent misprints, chaotic transliteration of modern Greek, and citation of classics indifferently by English, Latin, or Greek title. The map omits many points necessary for a comprehension of the argument; it spells several place names differently from the text; worse yet, it lacks a scale. A few points of varying importance follow:

140, n.20, and 152. Obsidian from Agrieli's eastern foot indicates a prehistoric, not a classical, site (cf. *AJA* 40 [1936] 265, n.1).

141, n.23. Schliemann excavated here in February, 1884 (*Tiryns* [London 1886] 2).

145, n.55. Why is each Greek allowed 3.37" less frontage at Marathon than at Chaeronea (*AJA* 62 [1958] 310)?

155. Lolling, *AM* 1 (1876) 80, placed the "mangers of Artaphernes" northwest of the Great Marsh.

159-160. On arrowheads from Marathon see also *AA* (1940) 200.

172, n.249. One need not read *Διγλεφείρη* for *Διγλείη* in Hdt. 6.107; Wallace proposed an identification, not an emendation.

Of the plates, two aerial photographs look at the mountains, Marathon, and the sea. The others range from instructive (the panorama, the rubble wall) to unnecessary (the Charadra, a tank trap).

Marathon is not, like Thermopylae or Sphacteria, a topographer's battle. The sources must be sifted and leavened with hypothesis. P.'s hypotheses, in the reviewer's opinion, are inadequate. His study, though useful, does not supersede its predecessors.

WALLACE E. McLEOD

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PYTHON: A STUDY OF DELPHIC MYTH AND ITS ORIGINS, by *Joseph Fontenrose*. University of California Press, Berkeley and Los Angeles. 1959.

Python is a brave and learned dragon-book which threatens to put an end to all dragon-books by the simple process of identification: all dragons are Python's and all dragon-slayers are Apollo's. Fortunately for the dragon-loving public, the book fails to prove its case; its conclusions rest on a labyrinthine maze of assumptions, surmises, conjectures, and speculations which dazzle and daze but do not convince. To be sure, the book includes a number of impressive-looking tables rigged out with various precise-sounding devices in an effort to persuade the reader that its methodology is rigorously objective and scrupulously scientific. But such age-old "scarlet" sins as forced comparisons, reckless etymologies, and a well-nigh total disregard for the chronology of the sources, will hardly turn "white as snow" under a covering façade of intersecting lines with a modern technological look.

The mythological equations, identifications, and reconstructions which the author claims as established, or at least "fairly certain" (pp. 465-68), are based on arguments pock-marked with discarded "if's" and forgotten "maybe's," and on motif-comparisons in which similarities and correspondences, no matter how superficial and trivial, are stressed as significant and conclusive, while differences and disagreements are glossed over lightly or ignored altogether. To take only the area with which I am familiar to some extent, that of the ancient Near East: it borders on the absurd to say, if only by implication, that the rather moody and temperamental Hittite god Telepinus is but another Python (pp. 227-28); or that the Ugaritic "Aqhat" myth, whose main characters are the goddess Anat and four mortals—Daniel, his son Aqhat, his daughter Paghat, and the villainous Yatpan—is but a doublet of the "Baal" myth, except that its major protagonists—the gods Baal, Anat, El, and Mot—have become Aqhat, Paghat, Daniel and Yatpan, respectively (pp. 138-42); or that the diverse Sumerian and Babylonian dragon-myths are all doublets of the Tiamat-Marduk combat tale as told in *Enuma Elish* (pp. 146-64). And as for the god Tammuz (the Sumerian Dumuzi), almost everything said about him in the pages of *Python* is sheer nonsense and fantasy: Tammuz was not killed by a lion, nor by a boar, nor by some kind of monster, nor by a brigand (pp. 164-65, 247, 441); he never

"merged" with Marduk or Shamash (pp. 164, 248); he never became identified with Marduk (p. 254); his "wife-sister" (presumably Inanna or Ishtar is meant) did not search for him after he had disappeared—she knew only too well where he was—and he was never "found and brought back" (pp. 440-44). Tammuz died not as a result of physical violence or mortal combat; he was carried off bound and fettered to the Nether World by the little devils, the *gallê*, as a substitute for his wife, the goddess Inanna who, in accordance with the divine rules governing the "Land of No Return," could not be permitted to leave the Nether World whither she had descended of her own free will, unless someone took her place there. Tammuz is thus no dying-and-rising god at all, but rather a demi-god—his sole claim to godhood was that he was married to the goddess Inanna—who died and stayed dead; in fact he must not under any circumstances leave the Nether World, since, if he did so, Inanna would be forced to return to the "Land of No Return," and mankind would really be in trouble—at least so the Sumerian theologians believed.¹

As is evident from the preceding, this reviewer is not inclined to the opinion that many of the theories and hypotheses put forth in *Python* will stand the test of time—the sole judge and ultimate arbiter of all humanistic efforts. Nevertheless he would recommend it as useful and even essential reading. It is a stimulating book, in its fashion, and its rather startling overstatements may contribute indirectly to a wider study and deeper understanding of the mythologies of the ancient world and their intricate and far-flung interconnections. It is an erudite work by a dedicated scholar, and its innumerable footnotes are replete with helpful references. It is a broad and comprehensive book, and introduces the reader to areas of mythological research which tend to be avoided for one reason or another. It has a large up-to-date bibliography and several useful indices. Finally, the book has an outstanding chapter entitled "The Rituals" (Chapter XV) which presents a surprisingly sober and carefully-reasoned analysis of the relevant source material, and demonstrates conclusively that there is little if any organic relationship between the myths of the ancients and the rites with which they are often associated.²

SAMUEL NOAH KRAMER

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¹ For full details see *Mythologies of the Ancient World* (an Anchor book edited by the reviewer and published by Doubleday and Co., 1961) pp. 10-11 and 106-15. The conclusion that "it was Girgire who killed Tammuz at Bilulu's instigation" (*Python* p. 165) is based on a series of assumptions and conjectures typical of the methodology of much of the book: the Ugaritic "Aqhat" myth is assumed to be a parallel of the Sumerian "Bilulu" composition, although the two have almost nothing in common, and the denouement of the former, namely, "that Paghat killed the drunken and unwary Yatpan and that Aqhat was recovered," which is itself nothing more than a conjecture on the part of the author, since the text breaks off at this point

(p. 139), is then used as a clue to solve the identity of the killers of Tammuz, the demi-god who was never murdered in the first place.

² To judge from his analysis of the Babylonian New Year Festival, the author is unaware of Von Soden's study "Gibt es ein Zeugnis dafür dass die Babylonier an die Wiederherstellung Marduk geglaubt haben" (*ZA N.F.* 17 [1955] 130-66) which corrects some of the errors introduced by Langdon's translation and interpretation of the relevant documents; it may well turn out that the commonly accepted view that Marduk was a dying-and-rising god is quite unjustified.

GREEK PAINTED POTTERY, by R. M. Cook. Pp. xxiii + 391, figs. 44, pls. 56. Quadrangle Books, Chicago (Methuen and Co., London), 1960.

The classical archaeologist is always in need of manuals. Many scholars, especially in recent times, have tried their hands in the field, but few achieve the degree of perfection this exacting discipline demands. The series of handbooks published by Methuen has long been notable for its excellence; it includes Pendlebury's *Crete*, Lamb's *Bronzes*, Mattingly's *Roman Coins*, to cite some of the finest. Now Cook's *Pottery* joins them, and in many ways surpasses them all.

This reviewer had supposed that the sheer bulk of modern scholarship on Greek pottery would forever preclude encompassing the subject in a single volume. Mr. Cook proves how untrue such a supposition is, for he not only surveys the history of Greek pottery with all its local schools (including Etruscan) from Protogeometric to Hellenistic, but finds space to consider many other topics, some for the first time. Such a feat requires, as well as concentration, a pace as sure as it is rapid; it also requires constant critical appraisal; in this the author treads upon the toes of many specialists. Nevertheless the impartial reader will find him as good at criticism as at scholarship.

The text really comprises three major sections. The first, which is the history, takes up five chapters: Protogeometric, Geometric, Orientalizing and Black Figure, Red Figure, and Hellenistic. Of these, the longest and most important is the third; it is an area where the author himself is a specialist, and here all the material is brought together for the first time. This chapter alone makes the book a necessity for almost anyone who works in Greek art and archaeology. Added to this first historical section is a brief chapter on Black Painted (= Black Glaze) and relief wares. This historical section is illustrated by 56 admirable plates, which were chosen with talent close to genius so as to serve what follows almost equally well.

The second section consists of five chapters in which various subsidiary aspects of Greek pottery are treated. First is a considerable discussion of shapes; for each main shape the treatment is here again historical. Next is a discussion of technique; though brief, it is thoroughly up-to-date. The third chapter takes up inscriptions (including graffiti), and then comes a review of chronology, with special attention to the rather few sources of absolute dating. The section ends with a study of the pottery industry, an important topic rarely mentioned in handbooks.

The final section comprises three chapters, entitled "Uses (of pottery) for other studies" (very conservative); "Practical comments" (where the author tells a novice how to pick up an ancient pot, how to draw one, or clean and mend one, or even how to buy one), and "History of the study of vase-painting," a compressed outline of a subject which might well deserve a new and interesting book in itself.

Finally, there is the apparatus, which takes up the

last 50 pages. We begin with a much abbreviated list of abbreviations, and then comes the bibliography, arranged to follow the text, chapter by chapter, topic by topic. This is not only select, as it should be, but critical, with a note on every title stating in a sentence (or less) its special value and often its shortcomings. Thus the careful selection is doubly useful, although not without misprints. In two instances, where every man has his own terminology, the author furnishes useful concordance charts. Following it is a list of museums with the principal pottery collections and their publications brought together. After a note on sites where pottery has been found, there comes a Glossary ("of terms not already explained") and finally a good index, put after the plates where it belongs.

From the above it should be clear that little which concerns Greek painted pottery has been left out of this praiseworthy handbook. In addition, it is a very personal book. As we admire the progress of the narrative, the author's crusty judgments and pithy comments rarely allow us to forget him. Sometimes he verges on the cantankerous, or even lordly (in his Glossary he declares terms obsolete by fiat). At the same time, it is hard really to disagree with him, even on some of his judgments which at first appear harsh. Whether we agree or not, the very insertion of personal opinion makes this a handbook which can be read with real pleasure, as well as consulted. To pass such a test is an extraordinary achievement.

J. H. YOUNG

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RECUEIL CHARLES DUGAS. (Publications de la Bibliothèque Salomon Reinach, I.) Pp. 208, pls. 44. Éditions E. de Boccard, Paris, 1960.

This tribute to the late Charles Dugas by a group of his friends is also the first volume of a new series published by the Société des Amis de la Bibliothèque Salomon Reinach and as such is intended to honor Reinach as well.

Dugas' friends, with Henri Metzger acting as editor, have selected eighteen of his articles, from the years 1932 to 1957, all but one of which deal with vase painting, particularly Athenian painting. It was decided, in view of the new material which has appeared since 1932, not simply to reprint the articles, but to bring them up to date with new references and photographs. This has been carefully done and a bibliography of Dugas' works and useful indexes have also been added. The reader will have no difficulty in recognizing the additions and changes, since square brackets have been used to indicate the deviations from the original texts.

The result is a handsome, up-to-date and well illustrated book which will be of definite value to those interested in vase painting.

MARY CAMPBELL ROEBUCK

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CORPUS VASORUM ANTIQVORVM, DEUTSCHLAND, Band 19: ALTENBURG, STAATLICHES LINDENAU-MUSEUM, Band 3, by Erwin Bielefeld. Pp. 75, pls. 48. Akademie-Verlag, Berlin, 1960. DM 45.

The third fascicle of the Altenburg *Corpus* is mainly devoted to South Italian and Etruscan, and it is perhaps a pity that the few Italiote vases published in the second fascicle¹ could not instead have been given a place here for the convenience of having the South Italian series complete in a single volume. The illustrations are good; the text is mainly descriptive, with only brief comments on style and subject matter, but follows the excellent, though rare, practice of assigning dates to all the significant items.

Plates 92-108 contain an assortment of standard Apulian red-figure, mostly from the second half of the 4th century and of comparatively minor importance either for style or for subject, though some of the *naiskos* scenes (345, 351, 338, 348, 349, 352) are of interest. The head on the neck of 351 (pl. 93,1), which seems definitely feminine, is probably Nike rather than Eros; she is commonly found in such a context, cp. Cambitoglou *JHS* 74 (1954) 111ff, and the barrel-amphora 352, pl. 99,5, but the representation with only a single wing is less usual. The dating of the hydria 321 (pl. 101,1) seems rather low; it will not be later than the bell-krater 342 published beside it and would better be placed in the second quarter of the 4th century.

Several of the head-vases, e.g. the kantharoi 265 and 261 (pl. 106,1-4), the oinochoai 322 and 307 (pl. 103,5-8), and the plate 247 (pl. 108,6) may be assigned to Cambitoglou's Kantharos Group (*op.cit.* 116ff); the last of these is very close to Prague N.M. 2044/O, assigned to this group by R. Haken in *Acta Musei Moraviae* 43 (1958) 47, pl. 4. The askos 328 (pl. 105,1-2) belongs to the group of Taranto 2996 (Cambitoglou, *op.cit.* 119).

There is some confusion in the classification of the other South Italian vases, which are illustrated on pls. 109-113. The column-krater 343 is not Lucanian but Apulian, and may be assigned to the painter of Copenhagen 335 (*CVA* pl. 250,1),² as a comparison of the reverses will show. The date suggested is a little early; the second quarter of the 4th century would be safer. The remaining vases (309 and 323) on pl. 110 seem also Apulian rather than Lucanian.

The vases on pl. 111 are described as Campanian, though none of them may properly be ascribed to that fabric; indeed the shape (nestoris, type 3) of 327 suggests that it is Lucanian, and it is a typical minor work by the painter of Naples 1959. The bell-krater 305 is Apulian and may be attributed to the Valletta painter;³

¹ Among these should also be included two vases listed as Attic: the column-krater 276 (pl. 56,1 and 5), which is by the Amykos painter, as H. R. W. Smith has already pointed out (*AJA* 1961, 75), and the unnumbered lekanis-lid illustrated on pl. 79,4. The bell-krater 272 on pl. 85 which, as Smith (*loc.cit.*) points out, is too late for the Pisticci Painter, is by the

the pelike 347 remains something of a mystery. The handle-decoration, with the cone- and kite-like florals, is very close to that of the Rocanova painter (cp. Taranto *CVA* 1, IV Gr, pl. 5,4); the human figures, however, stand somewhat apart from his extremely characteristic style, and it is perhaps safer to note the general association of the vase with his work rather than to attempt a definite attribution.

The amphora 326,2 on pl. 112 is Apulian. 315 is too hopelessly overpainted to permit ascription, though the original may well have been Campanian, like the rest of the vases on this plate. The oinochoe 256 belongs to a group of head-vases near in style to the Ixion Painter, to judge from a comparison between the heads on them and those on some of his vases (cp. B.M. F218, *CVA* 2, IV Ea, pl. 8,11); the bottle 257 to the Haken group, which comprises a number of small bottles decorated with almost identical heads, first put together by Haken on the basis of two in Prague (cp. Frel, *Acta Univ. Carolinae—Graecolatina Pragensia* 1 [1960] 34, pl. 1, 1-2). The palmette decoration and the style show them to be related to the APZ painter. The two rf. vases (331 and 267) on pl. 113 are Apulian rather than Campanian.

Plates 114-118 figure a selection of Gnathia, plain-black, and ribbed or stamped wares. The bf. lekythos 197 (pl. 115,1-2) of the Pagenstecher class is described as Paestan; many such vases have been found at Paestum (cp. *BSR* 20 [1952] 37; 27 [1959] 27), but the style is common throughout Campania and Sicily during the second half of the 4th century and without a knowledge of the provenience it is not always easy to localize them. The whole group is well worth a fuller study: a good beginning has already been made by Mingazzini in the text to fascicle 3 of the Capua *CVA* (IV Es, pp. 19-22).

Plates 119-121 give us Messapian and other Italic wares; plates 122-136 Etruscan, including bucchero and impasto, some bf., a fine amphora (340) of the Praxias group, and a red-figured stamnos (330; pls. 134-6) of unusual interest for its subject matter, which has recently been discussed in detail by F. De Ruyt in *ArchCl* 10 (1958) 97ff. The last three plates contain a few Hellenistic vases, an Attic bf. neck-amphora (192) decorated with Athena between cock-columns in the manner of a panathenaic (cp. Beazley, *ABV* 406-07), and a couple of vases with modern decoration, one (282) in the archaic manner, the other (353) after a Campanian original, perhaps by the Ready Painter.

One of the chief aims of the *CVA* should be to make available material in the less well known or comparatively inaccessible collections, and Dr. Bielefeld deserves our grateful thanks for his achievement in completing

Eton-Nika painter, a member of the Tarporley circle; the pelike 346 (pls. 89-91) is related to the painter of Karlsruhe Bg; the pelike 275 (pls. 86-88) is not Italiote.

² For this painter see Cambitoglou and Trendall, *Apulian Red-figured Vase-Painters of the Plain Style* (forthcoming).

the publication of the Altenburg vases with such commendable rapidity and in such admirable form.

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CORPUS VASORUM ANTIQVORVM. FRANCE, fasc. 19, MUSÉE DU LOUVRE, fasc. 12, by *François Villard*. Pp. 22, figs. 4, pls. 48. H. Champion, Paris, 1958.

This is a model fascicle, its improvements marking a climax in a personal contribution already of peculiar value.

Villard's other two, Louvre 10 and 11, were indeed excellent, in their efficient realization of the sort of clearness and thoroughness now imperative in the publishing of vases. His full understanding of scholarly curiosity has made him such a good revealer—not merely a good showman, adroit, intelligently exhaustive, of gallery pieces. What has given a new character to the Louvre's fascicles, and has made these last three such an enrichment of knowledge, is the new editor's zeal for exhumation. This has dragged up, from various limbos but mainly the *barathrum testaceum* of "Campana fragments," a store of unseen material, after heaven knows what labors in making the salvage presentable and interpretable. Fascicle 12 springs no momentous surprise like the Lydos fragments of fascicle 11, and inevitably, since here had to come the turn of the column krater, it is rather drab in part. But it marks an advance, with innovations setting a new standard of exactitude, convenience, utility: "blocking-in" abolished; drawings provided for the profiles (unphotographable) of fragments; fascicle number repeated on each plate (for the reformation of scholars who, having chosen to shuffle their *CVA*, have been blinkered givers of blind references); an index, this by inventory numbers and so of immense convenience as a nexus with the manuals (any, that is, as well indexed as Beazley's *ABV*). In the datings which Villard continues to append, young students will delight, scholars will be interested—and should find them a stimulus to the working out, through arduous typological studies, of a notation of development more objective.

All the vases are Attic bf., kraters with a single exception. The finer things: pl. 191, uncommonly crisp work on a volute krater contemporary with the Princeton Group; pls. 193-199, some impressive fragments from calyx kraters, preceded by the almost krater-like cup CA 2988, gem of this fascicle with its wonderful "three-ring circus" of plunging dolphins, marching men, galloping boys, staged with all Villard's cunning on pls. 193f. But really more important is the series (the longest in any museum?) of column kraters. For this class pls. 156-189 give an unequalled panorama of its changes, as we are shown every slow step of successive retreats, beast yielding to man, abstract orna-

ment to floral, war and horsemanship ousted by Dionysos. So presented, in company and by a showman who ignores nothing that was meant to be seen, even shabby specimens gain significance: Camp. 11260 (pl. 166) as a pioneer, first (here) with the definitive ornament for handle plates; 11282 (pl. 182) as a diehard, last-gasper of the Lydan tradition.

The text makes sound contributions to connoisseurship, in attributing Camp. 11263 (pls. 167, 169) and 11264 (pls. 169f) to the painter of Bologna C 21, and 11266 with 11267 (pls. 170f) to the painter of Cast. 449, Villa Giulia; in recognizing a single hand on 11282 and 11283 (pl. 182). Is it so certain that 11268 and 11269 (pls. 171f, 174) are by one man, since the former seems to go rather with Syracuse 18425 (Italy 17, III H pl. 8, 1)? Would Villard accept attribution of 11255 (pl. 163) to the painter of Altenburg 184 (Germany 17, pls. 13f), of 11261 (pl. 168) to Beazley's Towry Whyte Painter, of 11278 (pls. 177f) to the same's Rycroft Painter?

H. R. W. SMITH

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ESSAI SUR LES MAGISTRATURES DES RÉPUBLIQUES ÉTRUSQUES, by *Roger Lambrechts* (Études de philologie, d'archéologie et d'histoire anciennes publiées par l'Institut historique belge de Rome, VII, 1959). Pp. 218, plates 45.

Here for the first time is a joint corpus of Etruscan inscriptions with magisterial titles, and of the sarcophagi, urns, and wall paintings with representations of magistrates. The forty-three inscriptions with the titles *zilaθ*, *maru*, and *purθ* are discussed with full attention to the interpretations of Rosenberg, Leifer, Rudolph, and Pallottino. The *zilaθ* was obviously a major magistrate, whose title, as a recently discovered inscription from Tarquinii indicates (p. 103), should be rendered in Latin by *praetor*. *Maru* is a title of lower rank, but the position of the *purθ* is uncertain. Lambrechts' suggestion that he was the president of the college of *zilaθ* (whose number in office each year is not attested) seems doubtful. There follows the corpus of representations, twenty sarcophagi and thirty urns (including ten replicas), all illustrated either by excellent photographs or, for lost monuments, by drawings. In addition there are several wall paintings, only two of which are well enough preserved to be illustrated.

Of particular significance are the inscribed monuments, all with the title *zilaθ*—monuments 1-7, all sarcophagi, whose inscriptions are nos. 35, 10, 41, 30, 29, 42, 36, and the wall painting on pl. XLV (see p. 183 and inscription 23). (The inscriptions are arranged under places of discovery and the monuments are classified by themes under sarcophagi, urns, and paintings, with cross references that are hard to find.) The painting and five of the sarcophagi come from the territory

of Tarquinii (to which the reviewer would assign the place of discovery of no. 2, Musarno west of Viterbo, since neighboring Castel d'Asso seems to be the *castellum Axia* of Cicero, *pro Caecina* 20); the other two sarcophagi come from the territory of Vulci. The representations show great similarity. The deceased in the toga stands in a two-horse chariot, preceded or followed by two or three lictors carrying *fascēs* without the axe; there is some variety in accompanying figures of attendants and musicians, and sometimes there are representations of demons. In the wall painting the deceased is on foot.

The inscribed monuments enable the author to assign to magistrates other representations without inscriptions, the majority from the urns of Volaterrae. Here the magistrate is occasionally on foot but usually in a four-horse chariot, and the musicians show much more variety of type. Besides the *fascēs* of the lictors, other magisterial symbols are to be found both in Tarquinii and in Volaterrae—the *sella curulis*, the box for records (*scrinium*), and writing tablets.

All inscriptions and monuments are later than the fourth century when the kingship had been abolished in Etruria, and some are placed in the first century B.C., though it would seem doubtful to the reviewer whether any of the inscriptions can be later than 90-88 when all Etruria acquired Roman citizenship. The area of the discoveries (see map on p. 105) is central Etruria toward the coast, with inscriptions found as far east as Chiusi. Neither inscriptions nor monuments have come to light from Arretium, Cortona, and Perugia to the north nor from the cities in closest relation to Rome, Caere and the Latin colonies, Sutrium and Nepes. This is a significant and illuminating book. The results support the author's view, in opposition to Rudolph, that individual cities were left free, after they were allied to Rome, to continue their own characteristic magistracies.

LILY ROSS TAYLOR

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VOM ANFANG ROMS, by Hermann Müller-Karpe. (Mitteilungen des Deutschen Archäologischen Instituts, Römische Abteilung, Fünftes Ergänzungsheft). Pp. 6 + 115, pls. 36. F. H. Kerle Verlag, Heidelberg, 1959.

This work on early Rome grew out of a wider study of the chronology of the late bronze and early iron ages in Italy and middle Europe. Convinced that current scholarship is too circumscribed by the traditions of historical Rome, the author has attempted a totally new approach to the problems of early Roman history, taking into account only the archaeological finds themselves. This is salutary as a reminder that it is dangerously easy to allow tradition to bridge gaps where archaeological evidence is lacking or inconclusive, and so to create a structure of prehistory that seems more securely founded than it actually is. The view over a

wider field imparts a valuable perspective to the study of early Rome, but one frequently receives the impression that absorption in the far view has prevented the author from focusing squarely upon the Roman evidence itself.

The book begins with a survey of early burial remains, from Greece as well as from Italy, including recent finds which have provided new criteria for dating. The author criticizes previous dating on two counts: that the dating of the Roman and Alban finds has been too much influenced by the literary tradition, and that it has assumed that similarity of types implies contemporaneity, without regard for long duration of types. By roughly distributing the finds between established *termini* of the Sub-Mycenaean and Geometric periods and thus allowing a longer period of development, Müller-Karpe arrives at a date in the tenth century B.C. for the earliest Alban and Roman burials.

The second chapter attacks the topographical problems of the development of the city without regard either for the historical tradition or for the evidence of survivals in place names, and in religious ritual. All such evidence aside, the author finds most probable the view that the city developed not by union of separate settlements but by gradual extension from an original settlement on the Palatine. Difference of burial rite is interpreted not as evidence of occupation by different peoples but as a chronological distinction.

Another chapter traces the origins of the most characteristic burial objects (hut urns, figurines, *calefattori*, and others), in every case to Cretan models. The re-dating of the Alban and Roman examples in the tenth century sets them considerably earlier than the parallels that have been considered significant in tracing their origin, and makes them rather the link between Crete and middle Italy. The route by which central Italy was penetrated by this strong cultural influence—strong even to the point of determining religious concepts—is assumed to be from the South, where Cumae may have been an outpost for trade with the Alban Hills before its colonization from Greece. The similarities to Cretan huts and figurines are used to support not only the thesis of Cretan origin but an astonishingly detailed interpretation of their religious significance. Of four types of figurine occurring in Crete—with both hands raised, hands curving forward toward the breast, one hand raised and one down, one hand raised to the head—only the last three are found in the Alban-Roman group, but all four are assumed to have been present and are used in the interpretation. The figurines are explained not as deities but as human beings engaged in religious ritual associated in some way with the dead. The gestures are those of prayer, sacrifice, and mourning. *Calefattori* are explained not as stoves but as *foculi* for the offering of wine and incense, the little three-footed plates as *paterae*. The hut urn, finally, is interpreted not as a dwelling but as a shrine. It is, indeed, closer to the cupola tomb than to Cretan dwellings; but Müller-Karpe largely ignores the impressive recent discoveries of circular huts on the Palatine and

of Gjerstad's findings in the Forum. He derives the hut urns from the Temple of Vesta rather than vice versa, and finds an early connection between Vesta and funerary cult in the fire of both hearth and funeral pyre, a connection which in the opinion of the author was gradually lost when incineration was replaced by inhumation. Finally he notes that the early Regia was similar in plan to the megaron, and the chain of evidence linking Crete with early Rome is complete.

The book has the inevitable faults of such a determination to take an untried path. By refusing to consider any but archaeological evidence, the author falls into a certain arbitrariness of discarding the older view, seemingly because it has the support of literary tradition, but at the same time basing interpretations on evidence no more, and at some points even less, reliable. It is refreshing to encounter a new and radical approach to Roman pre-history, worked out in detail with parallels that are in some cases fully as close as those which have been long accepted as proof of relationship. It throws into sharp relief the fragmentary state and equivocal character of some of the archaeological evidence, which has perhaps been given undue weight because it coincides with the tradition. But in the final analysis, with the available sources of evidence—archaeological, literary, religious, and linguistic—at best all too fragmentary, a just interpretation must continue to aim at a balanced use of them all, difficult as that may be.

INEZ SCOTT RYBERG

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LA COLONNA COCLIDE ISTORIATA, PROBLEMI STORICI ICONOGRAFICI STILISTICI, by *Giovanni Becatti*. Pp. 402, pls. 83. Studi e Materiali del Museo dell'Impero Romano (ora Museo della Civiltà Romana). "L'Erma" di Bretschneider, Roma 1960.

There are four columns with historical reliefs arranged on a spiral band wound around the column. The two belonging to the second century have been treated often, also in the same series: No. 1. M. Pallottino, *Il grande fregio di Traiano* (1938) and No. 2. Caprino, Colini, Gatti, Pallottino, Romanelli, *La colonna di Marco Aurelio* (1955). Becatti also has dealt with the latter in a beautiful album: *Colonna di Marco Aurelio*, a cura di Giovanni Becatti, 1957 (see my review *AJA* 63 [1959] 107f).

In the first chapter (pp. 13-24) Becatti discusses the problem of the origin of the spiral column decorated with historical reliefs. He rightly denies the derivation from the columns with horizontal tiers, like the column of Nero at Mainz, the Jupiter-giant columns, or Assyrian obelisks (pl. 1b-c). He believes that they are a continuation of the Greek narrative style, as we know it in the reliefs from Trysa (pl. 1d) and the Telephos frieze in Pergamon (pl. 82). He follows Strzygowski (*Orient oder Rom* 4), Birt (*Die Buchrolle in der Kunst* 269ff), Bethe (*Buch und Bild*), Hamberg (*Stud-*

ies in Roman Imperial Arts 129f) who believe that these spiral columns imitate a roll or rotulus which is the form of the ancient book, wound in a spiral around the shaft of the column. This is proved by the fact that in the Trajan column, as well as in the column of Arcadius, the uppermost part of the fluted shaft appears above the end of the band below the capital (pls. 4a, 73c, and 76d). Decorations with garlands laid in spiral around a column may also have contributed to the idea. For the representation of the band, however, Becatti believes with Weitzmann, (*The Joshua Roll* 101f) that the illustrations of the papyrus rolls of the Greco-Roman period did not have a continuous frieze, but a cyclus of separate scenes which were strewn in the columns of the text. The idea of a continuous narrative frieze must, in the opinion of the reviewer, first have been developed on Trajan's column, which still can be divided up in separated scenes as they appear in book rolls (see Lehmann-Hartleben, *Die Trajanssäule*, passim) and Weitzmann, (*op.cit.* 51f). The frieze can be dissected according to iconographic units, but the artist took great pains to create an uninterrupted fluent action. This later was imitated in the columns of Constantinople and in the book rolls, like the Joshua roll.

The column of Trajan is discussed in a short chapter and only the pedestal with the inscription and the coins with columns are investigated (pp. 25-31, pls. 2-4). The inscription agrees with Cassius Dio 63.16 who says that the column was the tomb of the Emperor and a monument to the great works done on the Forum. The coins, which do not agree with the coins of A.D. 115, showing the statue of the Emperor on top, were being minted already in 107 with an owl on top; they celebrate the erection of the two libraries in which was preserved the text which related the very Dacian wars represented in the narrative frieze on the column. Details of the frieze are on later plates to serve as comparisons to the later columns (pls. 6b, 7).

A kind of appendix to the Trajan column is a lengthy investigation of the tradition for honorary columns with portrait statues in Rome and Greece, beginning with those mentioned by Pliny (*Nat. Hist.* 34.19-27) and ending with late Roman ones (pp. 33-45).

The column of Marcus Aurelius in A.D. 176 (pp. 47-82, pls. 5-6a) is described according to the subject, the victorious war against Germans and Sarmatians. The style is a transition from the style of the Trajan columns to the late antique style. The main part is dedicated to the eight reliefs reused in the Arch of Constantine, which are compared throughout to the column (pls. 8-35, 44-45). In contrast to Rodenwaldt, "Ueber den Stilwandel in der Antoninischen Kunst," *AbhPreussAk* 3 (1935) 18, who dated the reliefs before the column, Becatti believes that they, like the column, were worked in the time after the death of Marcus Aurelius (A.D. 180). He also sees influence of this style on Roman sarcophagi (pls. 36-43).

The columns in Constantinople give the oriental in-

terpretation of the Roman narrative friezes on the honorary columns. They are taller than the Roman ones, about 50 m. against the 38 of the Trajan and 42 of the Marcus Aurelius one. They have only 13 spirals against the 23 of the Roman columns. As a consequence, the figures in Constantinople have double the height of the Roman columns. Both columns have been discussed in handbooks, from O. Wulff, *Altchristliche und byzantinische Kunst I* (1916) 168f, pl. xii, to J. Kollwitz, *Oströmische Plastik der Theodosianischen Zeit* (1941) 3-66. Becatti is the first to make an exhaustive investigation of the columns, their history, their sources, their remains, and the drawings of the representations with interpretation of each figure, each place and each monument.

The column of Theodosius, begun in 386 and finished about 393, stood on the Forum Tauri (pp. 83-150). An earthquake in 480 threw down the statue of the Emperor. The shaft was destroyed in the early sixteenth century by the Sultan Bayazid II. Fragments of the lower part were used for the construction of his bath (pls. 49a, 50b, 51-55). They represent marching soldiers, fighting soldiers, suppliants stretching out their hands similar to those on the base of the obelisk of Theodosius (pl. 50a), and a boat floating on water. The explanation is the war against the usurper Maximus.

The largest part of the discussion concerning the column of Theodosius is dedicated to a design which is in the Louvre (pp. 111-150, pls. 77-80). It is a rotulus, 14.65 m. long and 0.43 high. A smaller copy was made in 1702 by Palliet. In the same year C. F. Menestrier published a series of eighteen engravings by H. Vallet under the title: *Columna Theodosiana quam vulgo historiatam vocant ab Arcadio imperatore Constantinopoli erecta in honorem imperatoris Theodosii junioris a Gentili Bellini delineata*. Gentili Bellini was (1479-1480) in Constantinople where he painted the portrait of Mohammed II. He might have copied the column which was then still standing. The difficulty is that the style is not that of Gentili Bellini (1429-1507) and not that of the late fifteenth century or early sixteenth, but of the later sixteenth century at the earliest. The engravings (Kollwitz, Beilagen 9-10) are certainly not in the style of Bellini, as the authorities on Venetian drawings have clearly stated (Hans Tietze and Erika Tietze-Conrat, *The Drawings of the Venetian Painters in the 15th and 16th Centuries* [New York 1944] 62): "Gentili allegedly made drawings after the column of Theodosius in Constantinople. This tradition rests only on a late copy in the École des Beaux Arts in Paris, formerly attributed to Gentili and engraved in the 18th century from a reduction. Doubts as to Gentili's authorship, in a presumed older version, already expressed by Müntz, were again voiced by C. Ricci in *Nuova Antologia* Vol. CLXII, 1912, p. 177ff." J. Kollwitz (*op.cit.* 21f) and C. G. Giglioli ("La Colonna di Arcadio a Constantinople," *MemNap* 2 [1952]) believe the designs in the Louvre to be an inexact copy of the third to sixth windings of the col-

umn of Arcadius. They date it in the later sixteenth century, when the column of Theodosius was already destroyed. In contrast, Bernard Berenson agreed, according to Becatti (p. 113), with the author, that the design must be based on an older one of the late fifteenth century. This reviewer cannot believe that the designs can be exact, for many details, for example the trees, look baroque or even later. Becatti, however, treats the frieze as a reliable source. He describes figure for figure and monument for monument, indicating the place of the triumphal procession, describing the statues, the buildings with their names, the prisoners, the clothing, the gates. He assumes at the end a scene of the Emperor and his courtiers and bodyguards receiving the homage of the conquered enemies.

The sagacity of Becatti is admirable. In his endeavor to separate the designs of the triumphal procession from those of the column of Arcadius he goes too far, in the reviewer's opinion, in interpreting the triangular buildings with three figures each (pl. 80b, Kollwitz Beilage 10, 1). He thinks that they are framed tapestries put up along the route of the triumphal procession. Kollwitz (pp. 22 and 26) and Giglioli (p. 30, figs. 45-46) rightly compare them with the tents represented on the column of Arcadius (pl. 75 a-b, fifth winding) where three men each are enjoying a meal on a triclinium. Such feasting groups of three men each are also represented in the Codex Ambrosiana of the Iliad, Miniature XXVII (Becatti pl. 66a), only more realistically. Here, as in the design of the Louvre, the tents are arranged in two rows above each other with a road between them, where people are seen walking. In the lower tents there are two older prisoners and a trophy or a statue in the center. In the upper row two younger prisoners are at the side of a woman, who seems to protect them. This, as Becatti rightly said, is an allegory of the *clementia* of the Emperor against submissive enemies. These are not pictures which would have square frames, but living groups exhibited in a tent.

The column of Arcadius shows the triumph over the Ostrogoths under their leader Gainas. It was voted in 401, executed 403-421. This column is dealt with in the longest chapter in the book (pp. 151-264). The sources for the forum and the column and for the history of the war against Gainas are discussed at length (pp. 151-187). Then follows an analysis of the graphic documents which render the decoration (pp. 187-251 the frieze, and 251-264 the base). There are three drawings. The largest was probably made by a German artist, who accompanied in 1574 an envoy of Emperor Maximilian to Constantinople. It belonged to the British scholar Frechfield and is now in Trinity College, Cambridge (Becatti pls. 74-76; Weitzmann, *op.cit.* 102f, figs. 107, 108, 113). Another drawing of the whole column is in the Bibliothèque Nationale in Paris, executed at the end of the seventeenth century. It is 2½ m. high (Becatti pls. 72-73). A third drawing, done by Lorichs in 1557, shows the two uppermost spirals only (Becatti pl. 63d; Weitzmann p. 102, fig. 112). Lorichs also drew a view of Constantinople with

the column, now in Leyden (Becatti pl. 56b). Cassas in 1784 drew only the pedestal and the beginning of the lowest spiral (Becatti pls. 56a, 57a). By this time the column had already been taken down, in 1720 when it threatened to collapse.

The pedestal and the lower half of the first spiral are still standing (Becatti pls. 58-61). The pedestal is badly weathered, but the spiral is in agreement with the designs: marching soldiers, a rider, a car. Only one of the three designs shows the north side, in which a door led to the staircase in the interior (Frechfield, Becatti pl. 74b). All show the south side, which was apparently the most important one. Here the Emperor appears three times: in the sixth, tenth and thirteenth spirals.

Becatti gives a very exact description and interpretation of the frieze. The first part he interprets as the flight of the Ostrogoths under Gainas from Constantinople, which gives him occasion to show many monuments in this city: Propylaea, a long porticus, a round forum, aqueducts, aediculae, statues, gates, city wall. Citizens are looking on. He describes exactly their dress and that of the soldiers, the generals, the officials. From an arched gate in the city wall marches the army, now outside the city. Becatti's interpretation and those made by his predecessors do not always agree. He explains the scenes, from the fourth windings on, to be outside the city, with tents, cattle, and orderly marching soldiers, probably the imperial army. In the sixth spiral south, we see the Emperor with two officers holding a shield with the Christian cross. He stands before a palace. Becatti sees next to the Emperor the commander-in-chief of the army, Fravita, and in a seated figure the Empress Eudoxia. Becatti sees a palace near the Golden Horn, for the army marches in the sixth to ninth spirals along a body of water on which many ships with sailors indicate the imperial fleet. They fight a naval battle with the Goths and then disembark, in the tenth spiral, at a fort. We again see the Emperor probably with his brother Honorius seated under an arch which Becatti interprets as his box in the hippodrome. In the last three spirals fighting and marching soldiers alternate, ending with a solemn ceremony in presence of the Emperor. In these uppermost spirals the three drawings have many differences. Probably it was difficult to see them from the ground. Thus it seems questionable that they are as reliable as Becatti assumes. In the last spiral when the band is narrowing to a point, Frechfield has busts of soldiers, the Bibliothèque Nationale has water, and Lorichs has a nymph in the water.

The description of the pedestal follows that of the shaft (pp. 251-264). The design by Cassas (pl. 56a) and that in the Bibliothèque Nationale (pls. 72 and 73a) are sketchy. Only the drawings by Frechfield (pl. 74) are sharp and clear. These reliefs have been described with exact analysis and commentary by Kollwitz (*op.cit.* 31-58, pls. 5-7). Becatti adds some important corrections and observations. He emphasizes that the decoration in four registers achieves a hieratic

order in the scenes which begin below with trophies and submission, show the Emperor in the center of the third row to the south, of the second to east and west, and the Christian cross in three forms in the second row to the south, and in the uppermost row to east and west. Only higher officers surround the Emperor, soldiers and defeated cities bringing gifts are in the lower registers. The symbol of Christ held by angels is framed in the south by trophies, in the west by the car of Helios, representing the sun shining over Orient and Occident, while in the east Phosphoros and Hesperos, morning and evening stars, also express the idea of the two equal parts of the Empire into which Theodosius had, in 395, divided it between his two sons. In the center of the lowest register of the south side Becatti recognizes the Tyche of Constantinople, similar to the Tyche on coins of Arcadius and to that standing between victories on the base of the Column of Constantine, drawn by Lorichs (pls. 62a and d). At the corners of the same register stand the personification of Orient and Occident.

In the last chapter (pp. 265-288) the art of the two columns is summarized. They are derived from the Roman columns of Trajan and Marcus Aurelius, but are developed to a much more continuous style. There are no longer so many separate scenes in each of which the Emperor appears. He is rarely seen, and then always in culminating scenes of victory or coronation, surrounded by high officers and victories. These scenes show all persons frontally, equal in height, in bilateral symmetry, paratactic, and arranged according to dignity, with hardly any space or background. Allegories and symbols are used on the base and in the scenes near the Emperor. Christian symbols are on the base and on shields. The victories have become angels, as shown in the many writings quoted by Becatti (191 note 364. Alfons Beck, *Genien und Niken als Engel in der altchristlichen Kunst*, is a dissertation done at Giessen, written under this reviewer, not at Düsseldorf, which does not have a university).

The reviewer disagrees with the author when he sees in the column more Hellenistic than Roman influence. She agrees on this point with his predecessors. The conquering of a city on the frieze from the Heroon of Trysa (pl. 1d) and the battle on the Telephos frieze from Pergamon (pl. 82) are isolated early examples, not a root from which this marvelous narrative art could have developed.

An Appendix, pp. 291-297, deals with a detail from the relief with the *liberalitas* of Marcus Antonius on the Arch of Constantine (pls. 11 and 83). An object now worked away must be a sack with the money which the Emperor is distributing. I wish that there were more such appendices to shorten the text. An example is the discussion of the honorary columns (pp. 33-45). Another is the lengthy description of the historical events which are not represented on the column of Arcadius (pp. 164-187). Other examples are the discussion of representations of Scylla (pp. 198-207) and of the equestrian statue of Theodosius shown in a

design in the library of Budapest University (pp. 90-96, pl. 81).

Another feature which makes the reading of this book difficult is the defective connection between the text and the illustrations. The reader may wonder why the reviewer has made so many references to the plates. He will discover that the references appear mostly at the end of the lengthy descriptions, at the end of one or even several paragraphs; sometimes they are omitted, and in a few cases even wrong. The later plates seem to be scrambled.

These small defects, however, do not distract from the importance of the book. It is a brilliant contribution to the history of late ancient art in the time when Roman art developed into Christian Byzantine art. Much light has been thrown on the historical, iconographic and stylistic problems of the period.

MARGARETE BIEBER

NEW YORK

GLI SPETTACOLI IN ACQUA NEL TEATRO TARDO-ANTICO, by *Gustavo Traversari*, with two plates of reconstructions by *I. Gismondi*. Pp. 159, figures 37. "L'Erma" di Bretschneider, Rome, 1960.

The classicists, whose interest in the ancient theater stems from their study of Attic drama, have paid slight attention to theaters of Roman imperial times, especially to their later phases. For this reason some peculiarities in their late development are either unknown or misinterpreted. For example, the provisions found in many theaters for flooding the orchestra in whole or in part are commonly interpreted as evidence for the staging of *naumachiae*. The author of the monograph here under review, who lists all the examples known to him, takes pains to point out that the basins in the orchestra are too small for such a purpose. Sham naval battles were staged in the circus or, less frequently, in the amphitheater, and sometimes in open water in the harbors. The orchestra basins, like that in the Theater of Dionysos in Athens, were designed for a kind of water sport, for which he has coined the word "tetimimi" (Thetis mimes), with reference to Martial, *De Spect.* 26. To the copious evidence which the theater buildings themselves offer for the prevalence of such exhibitions he adds proof from a marble relief in Berlin and two mosaics from Tunisia, and he cites many passages from ancient authors in support of his thesis. The most detailed—if biased—description is provided by St. John Chrysostom, who condemns such shameless presentations and warns his readers to "avoid the swimming pools in the theater" (Φύγε τὴν ἐν τῷ θεάτρῳ κολυμβήθραν). This, then, is the Greek term for the orchestra basin. The Latin word *lacuna*, which occurs in two inscriptions from North Africa, Traversari takes to be the Latin equivalent of *kolymbethra*.

The Thetis mimes were popular in the third and fourth centuries, but they may have been introduced in the west as early as the first century of our era. With

the exception of some basins of unknown purpose in the Large Theater in Pompeii, the earliest example is found in the Theater at Daphni in Antioch-on-the-Orontes, dated by the excavators to the last quarter of the first century A.D. This is significant, in view of the fact that these theatrical performances in water may have had their origin in the religious rites of the Syrian goddess Atargatis. They must have been brought to Rome at an early date if, as the author believes, they are alluded to in the epigram of Martial mentioned above.

The actors and actresses, according to the author, performed in the nude. In a chapter devoted to a discussion of the recently discovered mosaic at Piazza Armerina in Sicily he rightly rejects Professor Pace's conclusion that the girls are swimmers wearing costumes appropriate to such sport. He agrees with G. V. Gentili that they are gymnasts in a palaestra engaged in contests for which prizes are being distributed to the winners. Much of the evidence for the immodesty of the exhibitions and the nudity of the actors in the Thetis mimes comes from Christian writers, whose testimony the author uses somewhat too uncritically. Would we expect from an evangelist's fulminations an impartial description of the costumes or lack of clothing appearing in films or on the modern stage? In the mosaic from Henchir-Thina, which the author reproduces as evidence for water sports in the theater, some of the performers appear to be respectably attired.

The era of theatrical art that the book describes is one which we find it difficult to admire and which we fail to comprehend. And yet it forms a chapter in the evolution of the theater without which the history of ancient stagecraft cannot be written. There are doubtless many other theaters whose orchestra was converted into swimming pools; these will be more readily recognized and understood in the light of Traversari's illuminating study of the subject.

OSCAR BRONEER

ANCIENT CORINTH

TOURNAI ROMAIN, by *Marcel Amand* and *Irene Eykens-Dierickx* (Vol. V, *Dissertationes Archaeologicae Gandenses*). Pp. 169, pls. 16, text figures 15, 2 maps. De Tempel, Bruges, 1960.

The problems of Tournai in the Roman period have engaged the attention of scholars for nearly one hundred and fifty years; and with the destruction of the museum in 1940 and the new material uncovered during the post-war reconstruction, the need for some record of the losses and gains sustained became imperative. To these circumstances we owe this monograph, which consists of a thesis presented by Mme. Eykens-Dierickx for her doctorate in 1954, translated and expanded by Dr. Amand who has added much fresh archaeological material. Among the previously unpublished evidence is a selection from the objects now in the hands of various owners and a study of these

private collections will form the subject of a later volume.

The work begins with a chapter on the references to *Turnacum* in the written records; all, with the exception of a letter of St. Jerome, official documents such as the Antonine Itinerary and the *Notitia Dignitatum*. This is followed by a much longer chapter listing all the archaeological material and divided into two sections: 1) burials and 2) the various discoveries made in the town. Here we have the solid foundations on which the student can build, every item is described with chronological data wherever possible, and with a full bibliography. The burials include a few isolated graves, groups of interments beside the Roman roads, and the four large cemeteries found at various times. Many of the grave groups from these cemeteries were destroyed in 1940 and between them they cover the whole period, beginning with the cremations from the Rue de Monnel which date from the early first to the end of the second century A.D. The most important cemetery of all was the one near the Grand'Place. It continued in use from the middle of the first to the end of the fourth century, and among the features identified there was the site of a *ustrinum*. From the 150 graves investigated certain important conclusions could be drawn, notably the fact that the periods when Tournai was most thickly inhabited were in the second half of the first and the second centuries, and during the second half of the third and much of the fourth. The majority of the cremations were buried with little protection; a few were surrounded by tiles or placed in a wooden box. The ashes were placed in an urn and accompanied by locally made pottery. The inhumations were usually buried with few grave goods, in wooden coffins protected by tiles or slabs of stone. They may have been the graves of soldiers belonging to the fourth century garrison. Burials of the same period or a little earlier, from the Cimetière de la Citadelle, however, were more richly furnished and seem to represent the last resting-places of some of the townsfolk.

Next comes the study of the discoveries relating to the settlement. Evidence was found for a little pre-Roman occupation in the early years of the first century A.D. and this was interrupted by the construction of the Claudian marching camp excavated in 1954-55. The presence of a military detachment was connected with two events of major importance: the invasion of Britain by the Romans in A.D. 43, and the construction of the great highway from Cologne to Tongres, Bavai and Boulogne. Increasing romanization taught the inhabitants of *Turnacum* to build stone buildings and roads, and the first quarrying of the local stone dates from this time. By the second half of the first century buildings planned in *insulae*, provided with hypocausts and drains, had been constructed over an area which underlies much of the modern town. One particularly valuable series of excavations was carried out at La Loucherie and showed, among other things, the existence there of an important civilian building. Among the finds of especial interest from this site are

pieces of several "vases planétaires," a jet medallion, and a fragment of wall-painting showing a winged figure.

Whether this building was the *gynaecium* mentioned in the *Notitia Dignitatum* is one of the questions discussed in Chapter III, together with various considerations affecting Tournai's civic status and defences. As the town grew, quarrying continued to develop around it and the stone travelled far afield. In fact the industry seems to have been a forerunner of the export of Tournai stone to England and elsewhere in the twelfth and thirteenth centuries. Pottery kilns also flourished in the neighbourhood in the earlier period, until their wares were largely supplanted by those of the big Rhinish factories. Evidence has also been found for the manufacture of small decorative bronzes and bone objects, and even of shoes. Tournai, now the centre of an area with many villas and important burials, had become thoroughly romanized, and in time such exotic oriental cults as those of Isis or Sabazios found their way there.

Less is known about the history of the town from the third century onwards. After the attacks of the Chauci between A.D. 172-74, frequent barbarian raids prevented it ever fully recovering its prosperity, and the soldiers' graves already mentioned, probably belonging to members of the *Numerus Turnacensium*, bear silent witness to these struggles.

This book is well illustrated and provided with a very full bibliography. Such studies are of great value to all students of Roman provincial life and we look forward to a companion volume from Dr. Amand describing, with the same scholarly thoroughness, the archaeological material from the countryside surrounding Tournai.

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RECUEIL GÉNÉRAL DES MOSAÏQUES DE LA GAULE—
GAULE BELGIQUE I, 2, by *Henri Stern* (Sup. Gallia X). Pp. 94, pls. 8 + 53. Centre National de la Recherche Scientifique, Paris, 1960.

The enormous progress which research on Roman mosaics has made in recent years is revealed most convincingly upon comparison of the publication under review with the older *Inventaire des mosaïques de la Gaule*. From such comparison it becomes apparent with what care H. Stern has reworked the individual find complexes, not to mention what considerable growth of important finds there has been during the last fifty years. The first fascicle (cp. M. E. Blake, *AJA* 63 [1959] 216f) covered the western part of *Gallia Belgica*, that under discussion the neighboring eastern parts of Belgium, Luxemburg and northern Lothringen (Nos. 141-262 of the complete work, including the mediaeval mosaics, Nos. 11* and 12*). It is most re-

grettable that because of the geographic system of the *Recueil*, the few mosaic finds of the part of *Germania Inferior* belonging to Holland remain unnoticed alone in the northern Transalpine area.

The original plan of the publication envisaged treatment of all the mosaics of Gaul. The appearance of a publication by this reviewer on the mosaics found in Germany (*Die römischen Mosaiken in Deutschland* [1959]; cp. M. E. Blake, *AJA* 64 [1960] 113f) caused a change in the project. The author omits these finds and limits himself to the reproduction and cursory mention in his introduction of certain representative examples from Trier, Oberweis and Westenhofen (cp. pp. 9f, pls. A, C-H). Since a work on the mosaics of Switzerland has meanwhile been announced by V. Clairmont-von Gonzenbach (in press) this area also will be omitted from the forthcoming fascicles.

The mosaics of the Duchy of Luxemburg, previously treated by this reviewer but, indeed, without autopsy (*op.cit.* Index, 143f, s.v. Bous, Diekirch, Echternach, Itzig and Medernach) the author has discussed again. The former has been corrected by various supplementary observations and researches made *in situ*, especially in the case of the important find complex of the villa of Bous. The author correctly dates the two black-and-white mosaics, Nos. 175 A, B (pls. 14-16) in the early second century, at the latest. From the damaged large pictorial mosaic of the third century, No. 176, he publishes two previously unknown fragments. His efforts to reconstruct the mosaic from these and the already known bigger fragment remain unproductive (cp. the scale drawings, pl. 18); but the attempts at restoration of fragments I and II are presumably wrong. Fragment I probably belongs to an octagonal star pattern of the type of the Trier mosaic from the Kuhnenstrasse (Parlasca, *op.cit.* 34, pl. 6, 1); at the edge to the right (direction as in the plate) instead of a crossing of the guilloche border some white stones are incorrectly restored. Then, both denticulated angles at the left should be restored as rhomboids. Surely to another such figure belongs the obtuse-angled remains of the field at the right in fragment II, where the traces of ornament can easily be completed as a convenient space filler. Stern incorrectly takes it for part of a large octagon. It is quite possible that the rhomboids I, left and II, right, belong to the same field. The restoration of the left fragmentary field in I remains doubtful. Instead of a triangle (the right angle could have been below or above, left) one thinks first of a trapezoid with figural central ornament, which would explain the strikingly large undecorated corner.

It is a known fact that in general finds of the eastern part of *Gallia Belgica* are richer than those of the west. In mosaics, too, the center of gravity lies in the Trier area, that is, largely beyond the present geographic limits of the publication. Nevertheless, certain important find complexes, especially rich villa sites, are outstanding in the material of this fascicle: Anthée (Nos. 156-158, pls. 3-9), Bous (see above), Diekirch (Nos. 186f, pls. 21-30), Tétting (No. 225 A, B, pls. 34-38),

Naix-aux-Forges (Nos. 240-244, 246, pls. 42-43) and Grand (No. 255, pls. 44-48). All the mosaics are, in spite of the variety of ornament, typical examples of Gallo-Roman mosaic art. The generally sparse use of figural motives must not be misunderstood as provincial poverty. Fine, low-keyed ornamental decoration is better suited to the carpet-like character of mosaic than overlaid figural composition such as was loved in the east and in Africa (see Parlasca, *op.cit.* 120, 127).

The clear printing and the uniform good quality of the abundant plates are suited to the careful exposition of the material by the author. Since in contrast to the older catalogues almost everything is illustrated—in certain cases in different varieties of tradition—research has been advanced by the production of a working *corpus* which is not falsified by any subjective principle of selection. Various maps and sketches complete the documentation (cp. the preface by P.-M. Duval, p. 6).

The introductory chronological synopsis is very helpful. For every find, if sufficient evidence is afforded, the author gives a date. In this way, in addition to producing a proper catalogue, he makes an essential contribution toward the chronological arrangement of mosaics, of which the methodic investigation is still relatively young, having been begun a generation ago by M. E. Blake in her fundamental treatises on Italian mosaics. The reviewer is glad to be able to record his general rather complete agreement with the author in the criticism of the mosaics here handled. It is very much to be hoped that the concluding fascicle of the first volume and the subsequent numbers of this standard work will appear soon.

KLAUS PARLASCA

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(Translated from the German by Dorothy K. Hill)

RELIGIO: STUDIEN ZU KULT UND GLAUBEN DER RÖMER, by C. Koch. (Erlanger Beiträge zur Sprach- und Kunstwissenschaft, Band VII.) Verlag Hans Carl, Nürnberg, 1960.

This book, published four years after Koch's death at the age of 49, contains his major articles, which all followed his two books, *Gestirnverehrung im alten Italien* (1933) and *Der römische Juppiter* (1937). Otto Seel, who has edited his colleague's book, tells us in the foreword that Koch had hoped to present his interpretation of Roman *religio* in a more coordinated work, for which these articles were preliminary studies. *Dis aliter visum*.

Most of the articles will already be familiar to those who are interested in the field, and need not be reconsidered here in detail, but, as Seel says, it is remarkable how much they gain from being read together, not in the order of composition, but grouped according to subject, under the three headings: *Götter, Rom and Glaube*. To fill in the picture of the author's work and thought, the editor has provided a complete list of

Koch's publications, including his articles in *RE*, and reviews.

In the two books which Koch wrote before he was thirty it was obvious that he was already a master of his subject and an independent and original thinker, working in the tradition of objective, impersonal scholarship. From the articles gathered here, more emerges. To ancient literature, from Homer to the Church Fathers, he brought a sensitive imagination, by which he penetrated beneath the surface of rational thought and cult practice to the fears and aspirations of classical culture, the unformulated apprehensions of life and death. Increasingly he allowed his own deep religious convictions to become apparent, but, in my opinion at least, he did not allow them to distort his understanding of the ancient texts, only to deepen it. As one reads, one feels that, exactly because Koch had a firmly held belief of his own, he was able to grasp the reality of ancient belief. He handles the evidence as objectively as he did in his earlier work, but in his maturity he saw farther into it. The part played by his own convictions in the development of his interpretations does not, however, become clear until one reads the last article, "Von Wirkungsgeheimnis des menschengestaltigen Gottes," published in the year of his death. Here, in Seel's words he "sein tiefstes und eigentliches Anliegen sich zu sich selber zu bekennen wagte," and one recognizes that through the other articles, less explicitly expressed, has run a concern with the relation between God and man, and the effort to understand the classical conception of that relation. Some people may object to the author's open expression of Christian belief, but it seems clear that it was this belief which led Koch to explore the problems which he has discussed.

These articles make one regret more deeply than ever that Koch did not have time to finish his work, and to give us the final synthesis of his ideas. In their present form they are often hard to grasp. The style of the language in which they are presented is difficult, and frequently obscure, even to a native German. The train of thought from paragraph to paragraph is often elusive. Frequently one must reread several times before one catches a glimmer of the point towards which the author is driving, and then reread again. To many, however, the final result will make it worth while to have struggled to grasp what the author has striven so hard to understand and to say.

AGNES KIRSOPP MICHELS

BRYN MAWR COLLEGE

THE DAVID MOORE ROBINSON BEQUEST OF CLASSICAL ART AND ANTIQUITIES, with an introduction by *George M. A. Hanfmann*. President and Fellows of Harvard College, 1961.

This brief catalogue of an exhibition held from May 1 through September 20, 1961, at the Fogg Art Museum of Harvard University will be welcomed by all those who have speculated on the disposition of the

well-known Robinson Collection. The introduction explains the terms of the bequest and mentions other owners. Listed with brief descriptions are 410 items, of which 216 are vases. A concordance of accession numbers with the various publications, *CVA*, *ABV*, *ARV* etc., will make this a most useful small volume. Since there are no illustrations it does not offer aesthetic pleasure to those not fortunate enough to visit the exhibition, but all archaeologists will be glad to know the whereabouts of so many old friends.

DOROTHY KENT HILL

THE WALTERS ART GALLERY

MASTERPIECES OF GREEK ART, by *Raymond V. Schoder, S.J.* Pp. 20 + 96 of commentary on 96 pls. New York Graphic Society, Greenwich (Conn.), 1960. \$12.50.

Over the years Father Schoder has taken many color photographs for classroom instruction. This book is an afterthought, and if so many of the color plates are poor, it should be explained that the author was unable to exercise proper supervision and that his protests went unheeded. Pls. 6, 13, 14, 17, 22, 26, 30, 32, 33, 34, 36 can be singled out for wrong colors; pls. 5, 8, 15, 29, 32, 34, 36, 46 (above), 47, 48, 54, 56, 57, 59 are pictures with the camera held at an odd or wrong angle; pls. 14, 15, 66, 79, and 80 are out of focus; pls. 4, 6, 7, 11, 12, 16, 20, 22, 23, 35, 36, 37, 41, 44, 46 (below), 50 (above), 61 (above), 62, 69, 85, 92, 93 have suffered through inadvertent cropping or have been mutilated in the original photography. The author is partial to a very strong blue which he either uses as a cloth background or had painted in. Where the blue is added or extended the contours of the objects have not always been respected. In other instances the backgrounds have been cut away entirely.

That much for the photographs. In most other recent books which come under the heading of picture books the color plates are the work of professional photographers and the text is written by scholars. Here, however, the same author not only supplied the pictures but also furnished the text.

The introductory essay contains, beside the consistent misspelling of millennium, some misleading statements. Stylistic judgments are often superficial such as the sentence (p. 4) that "Mycenaean art is naturalistic and curvilinear"; the chronological divisions are often uncanonical (e.g. the "Transitional Age" is taken to last from 530 B.C. to 470 B.C.); the author takes a dim view of Roman art (pp. 11ff). Renaissance art fares very badly (p. 12); Thorvaldsen and Ingres are cited for "imitations in seventeenth to nineteenth century art."

The chronological chart contains some odd synchronisms and is full of extraordinary statements. The Greeks are said to "control Knossos: c. 1450-c. 1200"; sub-Mycenaean has been put in the late 12th century, lined up with "primitive cult statues in wood (xoana)

or stone." Clazomenian sarcophagi and "best Etruscan tombs (Greek influence)" are put under painting early in the section 600-550; the painted wooden pinakes from Sikyon are called "black-figure"; late Corinthian is made to begin at 600 B.C.; Lydos is called Lydus Painter and put *after* the Amasis Painter, who in turn is made to *follow* Exekias; in the line above we get "Fr. vase" which may be the author's shorthand for François vase; but the unqualified entry "early black-figure" is wedged between "Laconian; Chalcidian" and "Fr. vase." "Classic gold jewelry" is lined up with Thucydides and put in the slot 450-430, and the sequence of sculpture in the period 323-146 is hopelessly jumbled.

Most of these pages, of course, will be skipped by the reader more interested in the pictures. Here much harm is done through the facing commentaries, and we must draw attention to some of the more troublesome misstatements.

Thus for the Mycenaean dagger blades (no. 1) we have "Cretan influence . . . unquestioned in the style and workmanship." The griffin on the jug no. 7 is quaintly related to the quality of wine. For the amphora no. 8 impressionism *and* Braque are invoked in the same sentence. The description of the oinochoe no. 9 reveals unfamiliarity with the technique and chronology of this ware. No. 10 is an alabastron, not an aryballos. The "russet tone in the clay" of the Chalcidian vase (no. 12) is not "the result of a chemical additive," and the shape is not an amphora. The fillet on the neck of the Attic neck-amphora (no. 13) is not a special feature of the Tyrrhenian class. Wide-handled is not the proper term for the Nicosthenic neck-amphora (no. 15), nor is it proper to contrast the black-figure *technique* with the red-figure *manner*. The harvesters on no. 16 do not wear trunks. The Andokides Painter is no longer credited with having painted *both* sides of his bilingual vases (no. 17). The ivory tone of the white ground oinochoe (no. 18) is not "achieved by a thin surface wash" but is inherent in the clay slip. The Rampin rider (no. 19) does not wear an ivy wreath. The statue no. 20 need not be a "Maiden from Chios." Aristion (no. 22) does not wear a leather helmet, and the painting on the cuirass does not give it "the effect of bronze armor." The statue from Cyrene (no. 23) is not ornate. The Aegina Herakles (no. 25) does not wear thigh guards.

The detail of the Vix krater (no. 26) is not from the rim, but from the neck. The tomb from which it comes is not of the fifth century; the gold diadem found with it is not certainly Greek, and only *one* of the Attic cups in the tomb is black-figured. The date of the Piombino (no. 30) is not 460 B.C. The pictures on the volute-krater no. 31 are on the neck, not on the rim. Gorgos is only known as a potter. The names are painted, not scratched through the glaze. The very much restored vase no. 32 is a calyx krater, not a pelike; the date is wrong. The Douris kylix in New York (no. 33) is completely misunderstood. The alabastron no. 35 was not painted by Pasiades. The petasus and chlamys on the

pyxis no. 36 are said to indicate "foreign status."

The painted subjects on the rhyton no. 37 are not as claimed. There is no Egyptian influence in the bronze oinochoe no. 38. The bronze bust in the Louvre (no. 44) is not a Greek original of ca. 410 B.C. The interpretation of the earring in Boston (no. 51, above) is based on *BMFA* 40 (1942) 51-54. The animal heads on the two earrings no. 51, below, are not of lions, but of horned lion-griffins. The object in St. Louis (no. 52) is not a pectoral, and the piece is modern (cf. Amandry in *La Collection Hélène Stathatos*, p. 105).

The "Lycian" sarcophagus (no. 54) does not come from Asia Minor, but from Sidon; the name is derived from the conventions for the shape of the lid and the choice of subjects, which indicate the workmanship of a Lycian Greek. The interpretation of no. 55 is uncertain, but in any event Alcestis was not conducted to the Elysian fields. There is nothing Egyptian in the chair of Pamphile (no. 56). Of the two coins shown together under no. 62, the one from Ionia is of electrum, not of gold (cf. British Museum *Principal Coins* [1959] 3, no. 19) and the stater from Philippi can hardly be dated after 348 B.C. Nothing is said of the family-magistrate's badge (a Phrygian cap). The Naples "Aratus" (no. 64) may be Lysimachus of Thrace, but there are better candidates (cf. Bloesch, *Antike Kunst in der Schweiz* no. 35 [with bibliography] and F. Poulsen, *Ny Carlsberg Glyptotek, Ancient Sculpture* 317, no. 448); the prototype could not have been made before the Pergamene "Pasquino." In connection with the Venus de Milo (no. 68) much is made of Lysippus and Praxiteles, but nothing is said about the known artist Agesandros or Alexandros of Antioch on the Meander (cf. Bieber, *Sculpture of the Hellenistic Age* 159).

The bronze statuette of an actor in the role of a slave (no. 69) cannot be dated in the second century B.C. Picard's interpretation of the horse's head (no. 73) is not acceptable. The thyrsos on no. 75 does not terminate in a pine cone. The tympanum held by the musician on no. 76 is not "like a large castanet." One of the marine monsters on no. 79 is a ketos. Not all the glass vases shown in no. 80 are "6-4 century B.C." The account of the Portland vase (no. 83) was written without knowledge of Miss Simon's monograph (*Die Portlandvase*, Mainz 1957). The two terracottas (no. 84) are a poor choice, and the head of the standing lady in Cambridge must be alien. The encaustic technique is not fully understood in the commentary of no. 92, and on the next page Liebieghaus is misspelled. The portrait of a Roman girl, no. 95, is not in Athens, but in the Museo Nazionale in Rome, where the list of plates rightly puts it. She is probably a late-Antonine princess and was found on the Palatine. The last entry in the book (no. 96) is a detail of the marble faun from the Agora. It could be passed over in silence, if the author had not seen fit to tell us in his last printed words that the smiling faun "is now commissioned by one of his admirers to play a new role—to be a symbol of the happily contented reader who has just finished this book!"

Not sharing the happy contented smile of the Agora faun, we shudder to think what would happen if every photographer and lecturer produced a book like the one under review.

CORNELIUS C. VERMEULE III
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ABSTRACTS OF NEW WORLD ARCHAEOLOGY, VOLUME ONE, 1959, edited by *Richard B. Woodbury*. Pp. v + 127, 1 map. Society for American Archaeology, Salt Lake City, 1960. \$3.50.

This is the initial volume of a new series to be published yearly by the Society for American Archaeology. Each volume is meant to include a listing of all published materials appearing during the previous calendar year along with an abstract of the contents of each item. The present volume, for the year 1959, contains 676 entries.

In our opinion the birth of this series is an event of outstanding importance for all students of American archaeology. If it continues as planned—and we sincerely hope it will never falter—it will undoubtedly become the major bibliographic source in a field of study that is becoming every year more extensive and complex and is much in need of such an all-purpose tool. Instead of relying on various bibliographies, we can turn to this to make certain that we are not missing publications of interest to us in our special and related areas of research, and to survey the published works for the whole of the two continents. It will also be invaluable as the one place to turn to find that article on a certain subject that appeared, we think, a year or two ago, but for which such facts as the author's name or in what journal it appeared have slipped our memory. It is our guess that the successive volumes of the "Abstracts" will become the most worn and tattered items on American archaeologists' shelves.

The appearance of this series follows the recent initiation of the practice of publishing an abstract at the head of each article in *American Antiquity* and in the *Memoirs*, the two other publication series of the Society. This is recognized by the editors as being a feature that saves a great deal of time and trouble on the part of many readers and is of special importance where language differences are involved. It also makes the preparation of an annual publication of all abstracts a much easier task.

The design of the present volume is excellent. Materials are grouped according to generally accepted areal subdivisions when such exist, and this seems the most logical and useful system. Entries are numbered consecutively so that cross references, or the finding of an item from an author index that appears at the end of the volume, are easily made. Unless they have been previously published, all abstracts are signed by one of the 49 contributors to Volume One. All are matter-of-

fact statements of content, as they should be, but the general editor has enlivened the whole by adding in some cases pertinent value judgments that are most helpful. It is well to know, for instance, that "The archaeological data presented are dubious . . ." or "For contrary evidence see. . ."

In sum, *Abstracts of New World Archaeology* gives promise of a most useful existence. Its editor, assistant editors, and contributors, as well as the Charles F. Brush Foundation of New York, which has financed the beginning of the venture, well deserve our warm applause.

GORDON F. EKHOLM

THE AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY

AN INTRODUCTION TO KANSAS ARCHEOLOGY, by *Waldo R. Wedel*, with description of the skeletal remains from Doniphan and Scott counties, Kansas, by *T. D. Stewart*. Pp. xvii + 723, figs. 109, pls. 97. Bureau of American Ethnology, Bulletin 174, Washington, 1959. \$3.00.

This volume was originally conceived as a "routine report of three seasons of archeological field work in Kansas" but because of delays from 1940 onward it "finally emerged . . . to include a comprehensive review of the available ethno-historical, archeological and geographical data on the aboriginal occupancy of Kansas." The contents of this volume show that Wedel successfully achieved this more ambitious scheme. There are preliminary sections on environment, historical background, and historic Indian tribes of Kansas (Siouan, Caddoan, Athapaskan, Shoshonean, and others). A summary of previous archaeological work is followed by some 400 pages reporting surveys and excavation in northeastern, central, and western Kansas. The rest of the volume is taken up with a summary of the cultures represented, sections on chronology, interpretations and conclusions, and appendices listing faunal materials and describing skeletal remains.

Obviously both aims, the review and the routine report, are thus achieved. The book contains so much material that a general evaluation must stop with the statement that, throughout, the work shows the craftsmanship we have come to expect from Wedel. For most readers, of course, the details of the excavated sites are not of prime importance. We can dismiss the 400 pages of detailed reporting as done systematically and in adequate detail, with enough illustrations to make the material fully comprehensible. Some relevant comparative data are worked into site descriptions. What will interest students of the Plains, and of North American archaeology generally, is to be found in interpretive and chronological sections. Even these contain too much to be summarized in a review. Instead of systematic repetition of some of Wedel's views, I will consider those points which seem to be of widest significance. Obviously, the findings and conclusions

which modify current notions about Kansas prehistory, or Plains prehistory generally, are of greatest interest.

Wedel classifies his several sites and the foci established by other workers in three ways. On page 535 there is a taxonomic arrangement using the phase, aspect, and focus categories which he began using in the 1940's. On page 613 there is a chronological chart, showing marked changes from some of his earlier work. Then there is, of course, the generalized discussion of the relationships between the several cultures. The only noteworthy thing about the chronological treatment, it seems to me, is that Wedel has tended to reduce the time span for the early Woodland cultures, on the basis of relatively recent radiocarbon dates. These seem to be too scanty and to cover too wide a time span to be taken very seriously. On the basis of radiocarbon dating, evidently, Wedel nevertheless has equated the Keith and Valley foci Woodland materials, assigning both to A.D. 400 or 500, which puts them later than the Hopewellian represented at the Kansas City site. This is a quite different interpretation from that of Kivett, who described and established the Valley and Keith foci. Kivett considered the two roughly coeval, placing the Hopewellian influences in Nebraska and Kansas later (see page 619). In other respects Wedel's chronology seems somewhat conservative, in view of recent C-14 dates earlier than A.D. 1200 for Upper Republican. The chronological placement of the several other local foci which Wedel has been able to isolate requires no discussion.

In the taxonomic placement of the several Kansas tribes, Wedel is least easily followed. He mentions four phases: the Upper Mississippi, into which the Oneota and White Rock aspects would fit; a Central Plains phase which involves primarily Upper Republican and Smoky Hill aspects, as well as Nebraskan; a Plains Woodland phase; and the Hopewellian phase. While this may be taxonomically admissible, it seems to obscure the more important matters of genetic relationships and changes through time. On the chart on page 535 he has not decided what to do with those of his new sites which fall into the Great Bend aspect. Even while he explains the placement of his sites in this taxonomic scheme, the taxonomic exercise has no real usefulness. In the Plains situation, where closely related cultures, hybrid from Woodland and Mississippian origins, are being studied, the taxonomic treatment Wedel has employed contributes nothing to understanding.

The derivation of such late Plains cultures as Upper Republican (and related manifestations) from a generalized Plains Woodland base after considerable contact with, or influence from, the Mississippi cultures to the east is not, of course, a new idea. Wedel's contribution is his emphatic statement that the southeastern, or Mississippian, influences to be perceived in the Plains were probably first derived from the Caddoan area to the south and southeast. Wedel sees the closest resemblances between the Gibson aspect and an early generalized Plains culture. Wedel has, in

addition, given the Smoky Hill aspect from central Kansas a new character and greater significance. It has an important role to play in the developmental sequence in the Plains, because, in Wedel's own words (with reference to Smoky Hill and Upper Republican):

It seems possible that the simpler nature of much of the prehistoric Kansas (and Nebraska) material, as compared to the relatively rich and abundant remains on the Middle Missouri, may reflect the fact that we are dealing here with the earlier antecedents of Plains culture, the initial stages perhaps of man's efforts to develop a food-producing society adapted to the peculiar environment of the Plains region. Manifestly, the geographic location of Kansas has exposed its prehistoric and later inhabitants to cultural influences and ethnic movements from a number of directions and from several highly developed centers of cultural differentiation (p. 641).

This, as I interpret it, puts Kansas in the main stream of development of Plains cultures. If this is Wedel's position, then he must perforce derive not only the early but most of the later and eastern elements from or through the south. The more usual explanation is that these influences came into Kansas from the north and northeast after the Mississippi Valley influences were received from, or at least by way of, the Old Village manifestation of early Mississippian culture.

Wedel has done a valuable service in comparing the Kansas cultures with those of adjacent areas. Particularly important are his references to possible influences of the Southwest on Plains culture. His identification of the Dismal River micaceous pottery with the Southwest is important, and very likely correct.

In sum, I regard this volume as a monument to prodigious labor and to the conscientious completion of the scientific cycle Wedel set in motion with his original excavation and survey work in the late 1930's. For this Wedel deserves great credit. It is not exciting to plod through the routine of artifact classification so long after the raw data have ceased to be news. That Wedel systematically and resolutely did this is to his credit; even more to his credit is the decision to attempt a re-evaluation of all relevant data, including his "new" information. His work will have value to many students for a long time.

JESSE D. JENNINGS

UNIVERSITY OF UTAH

ILLINOIS ARCHAEOLOGY, edited by *Elaine A. Bluhm*. Pp. ix + 61, figs. 10. Illinois Archaeological Survey, Bulletin No. 1. University of Illinois, Urbana, 1959. \$1.00.

Under the aegis of the Illinois Archaeological Survey seven scholars have pooled their considerable knowledge to produce this brief introduction to the archaeology of Illinois. Written to acquaint non-archaeologists with the broad outlines of current understanding of the

historic and prehistoric Indians of the state of Illinois, this well-conceived and well-executed volume will afford the same service to archaeologists and other specialists whose fields of study lie elsewhere.

Opening and closing the volume are brief statements by John C. McGregor and Elaine A. Bluhm about the purpose, organization, and functioning of the Illinois Archaeological Survey. The discussion of Illinois Indians and their prehistory is undertaken, following the "Introduction" by Bluhm, in seven compact chapters. Each of these is written by a separate individual and deals with a particular temporal division of the state's archaeology. Despite individual differences in emphasis and writing style, smoothness and continuity characterize the result.

The chapters are arranged in chronological fashion and reflect the major cultural stages or periods generally employed throughout most of eastern North America. By thus sketching Illinois cultural components sequentially, the reader is introduced not only to artifacts and assemblages and the concept of culture stages, but gains an appreciation of cultural change and continuity through time. This is one of the best features of the volume; particular cultures are thus related to one another in time, major patterns are isolated, and their possible affinities explored.

The order of presentation, following the chronological chart presented as Figure 1, includes the following essays: "The Paleo-Indian Period" and "The Archaic Period," both by Howard D. Winters, "The Early Woodland Period" by Melvin L. Fowler, "The Middle Woodland Period" by John C. McGregor, "The Late Woodland Period" by Moreau S. Maxwell, "The Mississippian Period" by Joseph R. Caldwell, and "The Historic Period" by J. Joe Bauxar. Each chapter deals specifically with Illinois sites and artifacts representative of a particular cultural period and concludes with a selected bibliography of important pertinent works. Accompanying each section is an excellent line drawing depicting traits characteristic of the period under consideration. Bauxar's outline of the historic period in Illinois is additionally illustrated with two maps showing tribal distributions and movements for the 1670-1770 and 1770-1832 periods. Taken together, and despite some interpretations of data that are more controversial than non-specialists would realize, these illustrated essays constitute a coherent guide to the broad outlines of Illinois archaeology.

While the charge may be made that the briefness of the essays and their strict chronological ordering have led the various authors into oversimplifications of highly complex material, and that these may give a false impression of widespread, uniform, and synchronous changes in culture from period to period—a charge to which any short synthesis seems inherently susceptible—*Illinois Archaeology* has set a standard for popular presentation that I hope will be emulated in other areas. Archaeologists, perhaps even more than other scientists, need to maintain communication with the public that supports them—and on a level that is

mutually beneficial. This little volume will help serve that need.

RONALD J. MASON

NEVILLE PUBLIC MUSEUM
GREEN BAY, WISCONSIN

BLACK SAND: PREHISTORY IN NORTHERN ARIZONA,
by *Harold S. Colton*. Pp. 132, ills. 43. University
of New Mexico Press, Albuquerque, New Mexico,
1960. \$4.00.

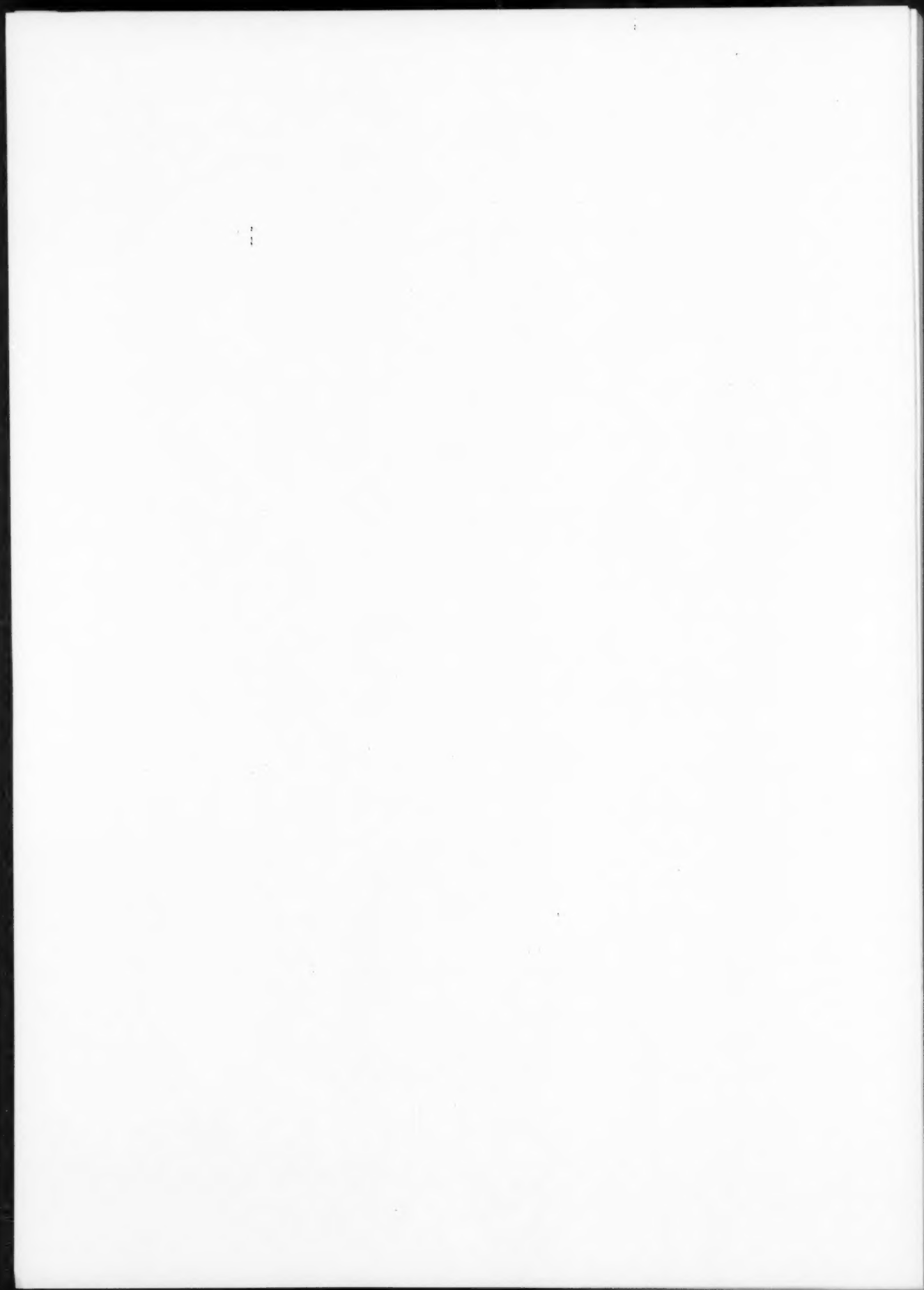
In this handsomely produced little book, Dr. Colton has outlined in simple, non-technical style his inferences, conclusions, and interpretations regarding the prehistoric Indian occupation of northern Arizona, based on the findings of his more than forty years' study. Neither a textbook nor a children's book, it combines very simple descriptions and summaries with frequent passages of imaginative reconstruction. It is concerned primarily with the thousand-year history—from before A.D. 500 to about or soon after A.D. 1400—of the localized group called by Southwestern archaeologists "Sinagua," and their ecological adaptation to the area and particularly to the volcanic ash cover, deriving from the eruption of Sunset Crater in 1064-1065 A.D., northeast of Flagstaff.

A few short chapters are concerned with archaeological methods, particularly tree-ring dating. Others, the main or central portion of the book, consist of sketches of the life and culture of the "Sinagua" Indians in the Flagstaff district at various periods from A.D. 500 to the fourteenth century, and in the Verde Valley to the fifteenth. Very brief summaries are given of neighboring archaeological groups falling in the same general period—the Kayenta Anasazi to the northeast, the Patayan (Yuman) Cohonina on the west, the little-known Prescott group to the southwest, and the very distinctive Hohokam to the south (who occupied the Verde Valley prior to Sinagua expansion southward, and sent a small colony up into the Flagstaff area right after the eruption of Sunset Crater). Other brief chapters take up the importance of the lower Colorado River in the western Arizona-southern California desert, prehistoric trade in the Southwest, petroglyphs of northern Arizona, Hopi and prehistoric Indian agricultural methods, population estimates and shifts in prehistoric northern Arizona.

In effect, this book summarizes concisely, and in excessively simple language, conclusions which Dr. Colton has reached on various closely interrelated topics which he has been thinking about and studying for many years. To some extent disconnected in presentation, and no doubt oversimplified, nevertheless it is a valuable crystallization or distillation of the known prehistory of the most intensively studied area of the American Southwest.

ERIK K. REED

NATIONAL PARK SERVICE
SANTA FE, NEW MEXICO



PLATES



FIG. 1. C 514



FIG. 3. C 575



FIG. 2. C 577



FIG. 4. C 577

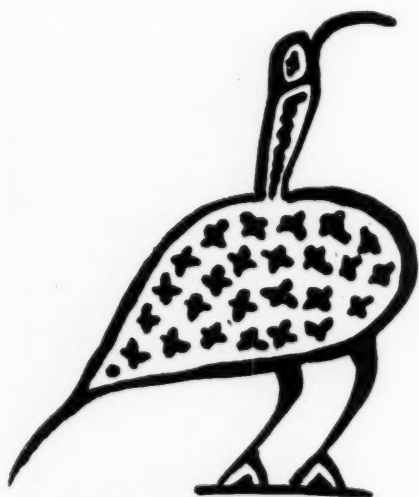


FIG. 5. C 402

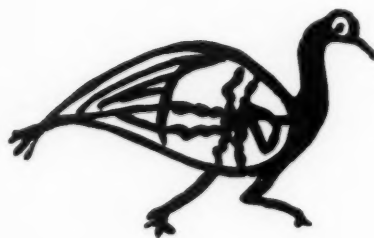


FIG. 6. C 577



FIG. 7. C 575



FIG. 8. Cyprus Museum, from Enkomi



FIG. 10. C 576

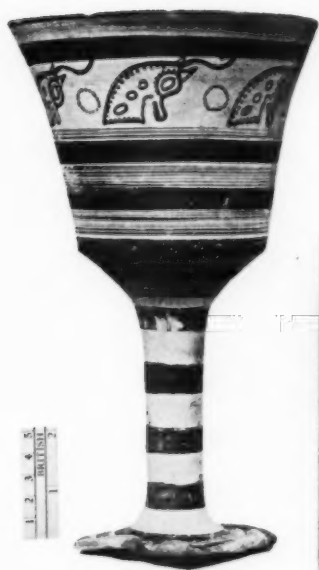


FIG. 9. British Museum, Sikes Chalice



FIG. 11. C 623

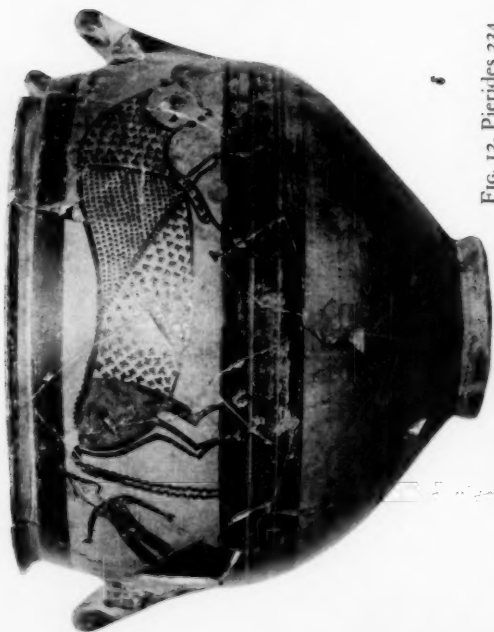


FIG. 12. Pierides 234



FIG. 13. Pierides 42



FIG. 14. C 402



FIG. 16. Pierides 34



FIG. 15. Cyprus Museum A 1647



FIG. 21. C 402



FIG. 20.
Athens, NM 2685



FIG. 17. C 372

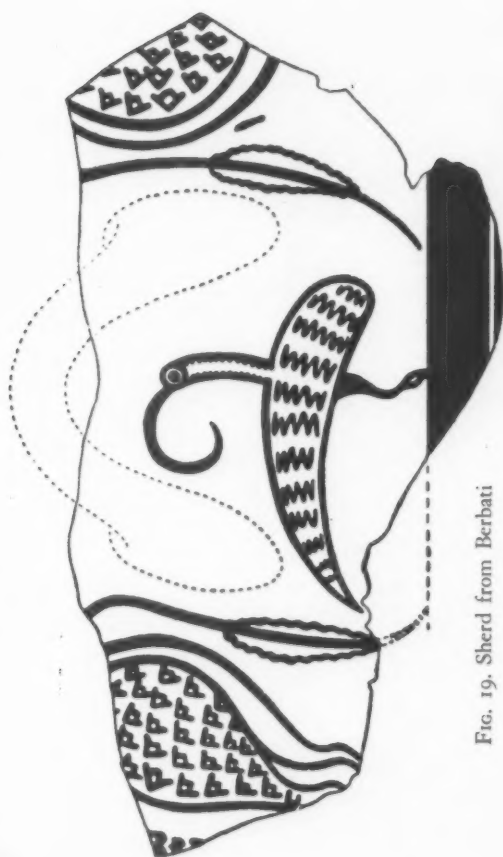


FIG. 19. Sherd from Berbati



FIG. 18. C 583



FIG. 23. Pierides 361



FIG. 25. Cyprus Museum 1760



FIG. 22. Nauplia, NM 2563



FIG. 24. Cyprus Museum 1760



FIG. 26. British Museum 1938.11.20.3



FIG. 27. British Museum 1938.11.20.1



FIG. 28. C 423

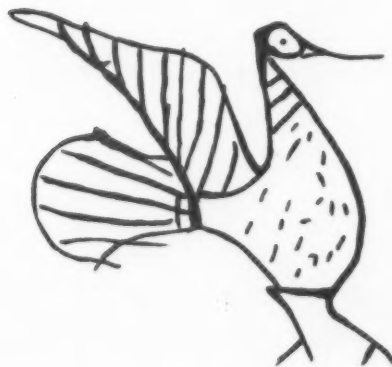


FIG. 29. C 422



FIG. 30. Herakleion, NM 1587



FIG. 31. Cyprus Museum 1760



FIG. 32. Athens, NM from Tiryns



FIG. 33. Nauplia, NM 1537

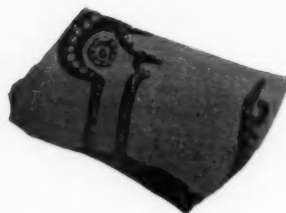


FIG. 34. Athens,
NM 2677-87f



FIG. 35. Athens,
NM 2677-87b



FIG. 36. C 409



FIG. 37. C 409

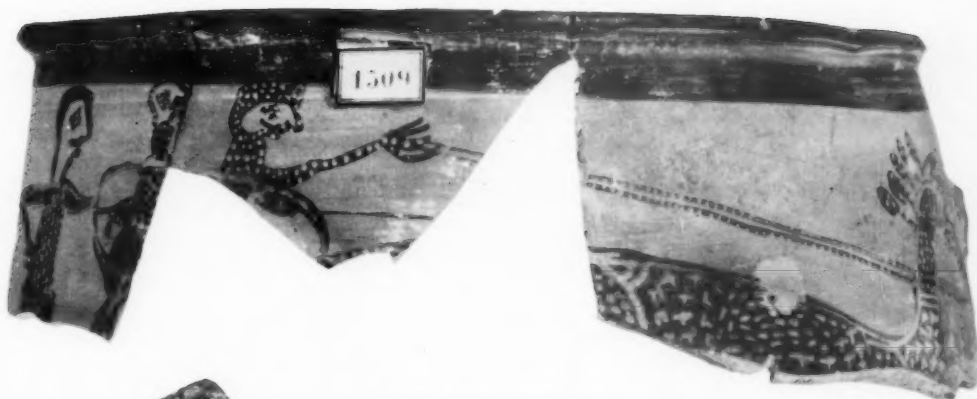


FIG. 38. Athens, NM 1509



FIG. 40. Athens, NM 1631



FIG. 39. Athens, NM 4691





FIG. 41. C 352

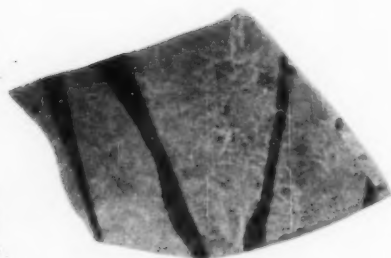


FIG. 42. B. 1057

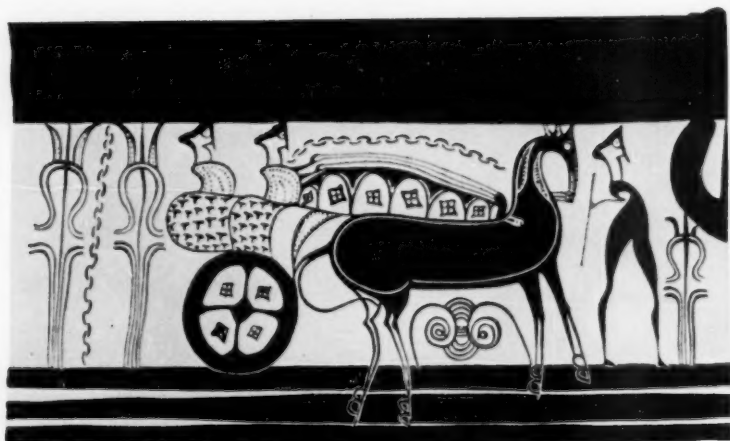


FIG. 45. Ras Shamra

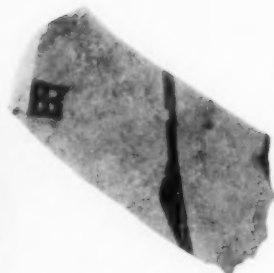


FIG. 43. B 1057

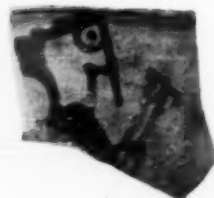


FIG. 44. B 1056



FIG. 46. Ras Shamra

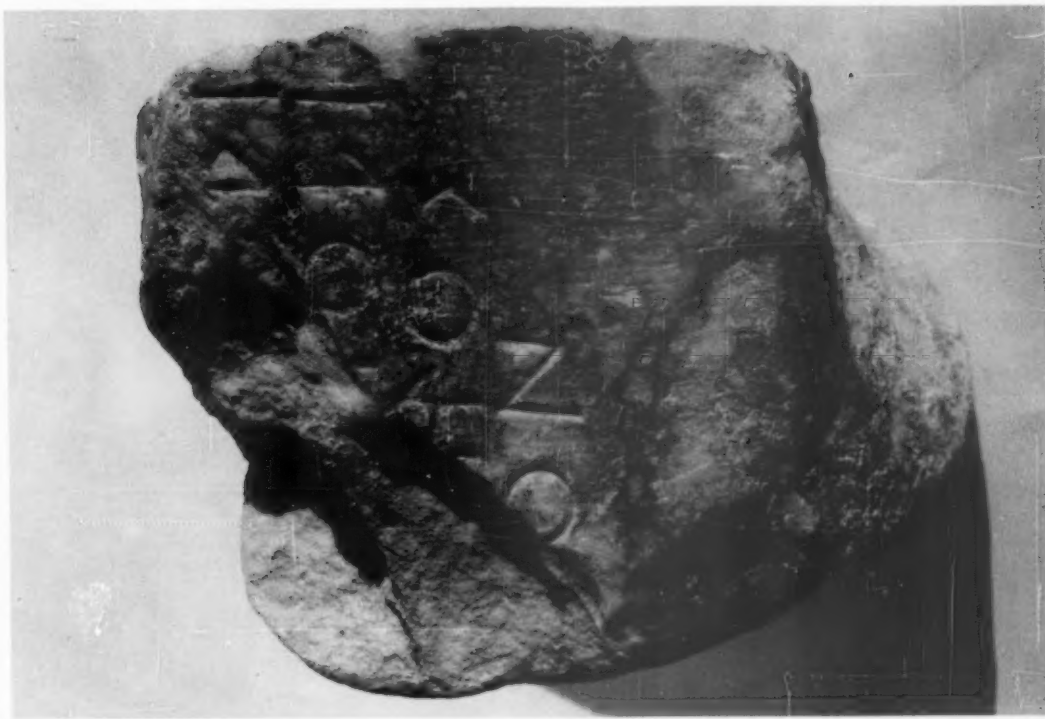


FIG. 2. Face C (Face B at top)

IG 1^a 2



FIG. 1. Face A (Face B at bottom)



FIG. 3. Side view. Face A at top, Face B at left, Face C at bottom, broken inner surface at right



FIG. 4. Side view. Face A at top, Face B at upper right, Face C at bottom, broken inner surface at left



FIG. 6. Face B. Face A at top, Face C at bottom



FIG. 5. Broken inner surface, Face A at top, Face C out of sight at bottom

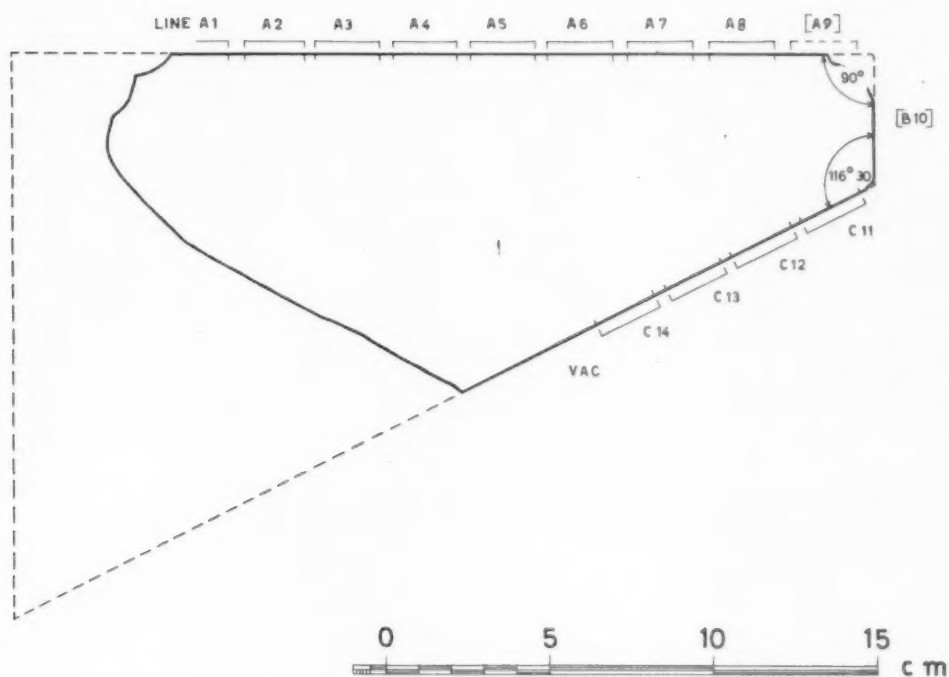
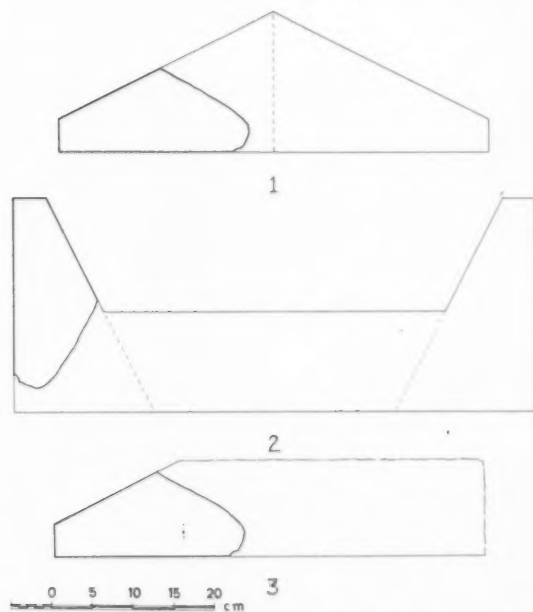
FIG. 7. IG I² 2. Profile (section) of surviving fragment

FIG. 8. Hypothetical restorations: as a stationary monument, usually with the lines running vertically. Seen in section: discussion supra.

1. A symmetrical stele, minimum size, allowing for inscriptions on the front and on the two faces of the back.
2. A sort of *naiskos* or *aediculum*. Several areas can be inscribed, but the preserved text forces part to begin on the outside. The central inner face can have been inscribed horizontally.
3. A regular stele modified to accommodate a continuation on part of the back.

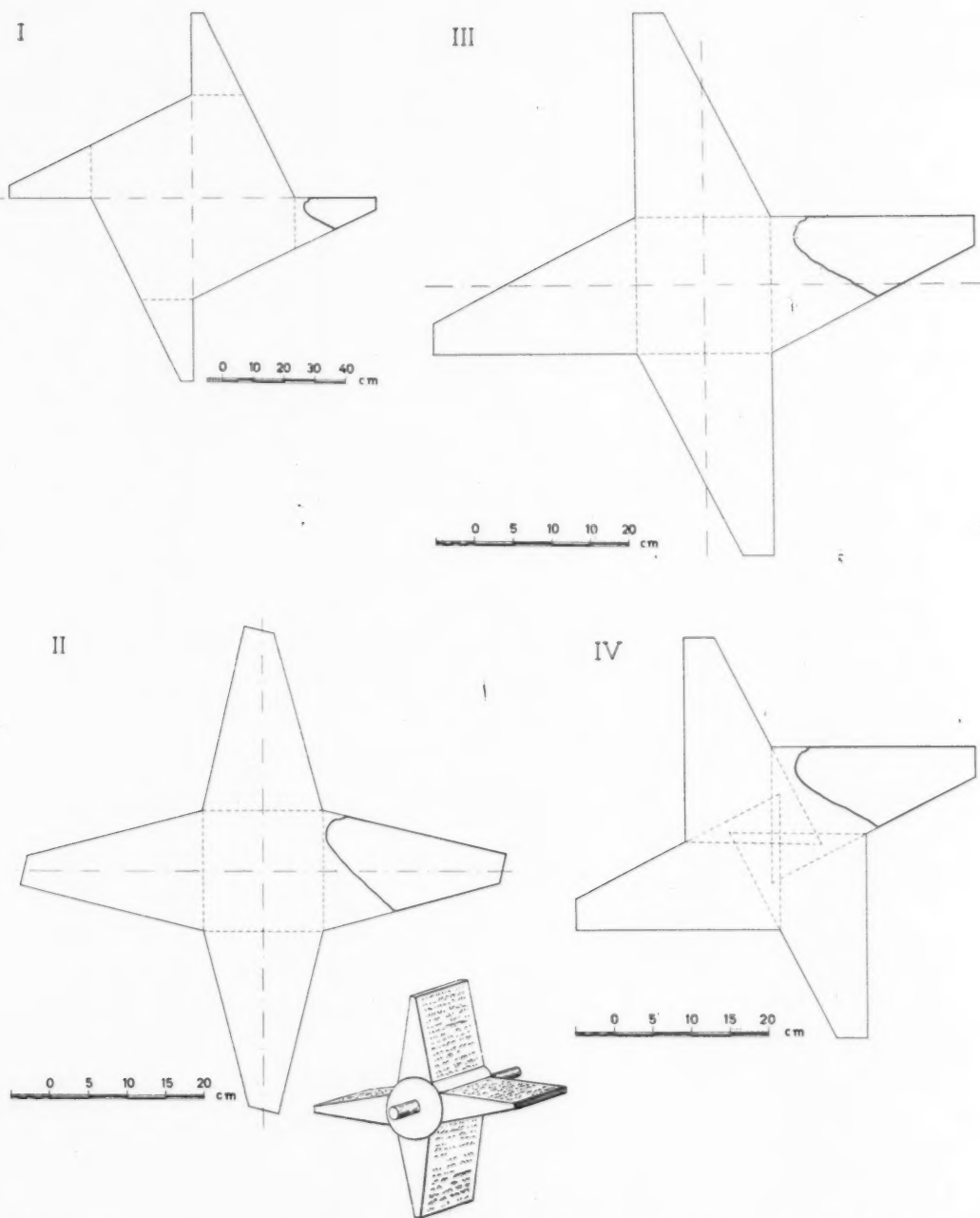


FIG. 9. Hypothetical restorations: as revolving (an "axon"?), the whole being set horizontally or vertically. Seen in section: discussion supra. I. Four complete trapezoids. II. Four (approximately) triangular projections. Inset: S. A. Koumanoudes' design, *EphArch* (1885) 217. III. Four trapezoids mounted on a square. IV. Four trapezoids overlapped to make one face taller than the other.



FIG. 1. General sketch map of Olympus area

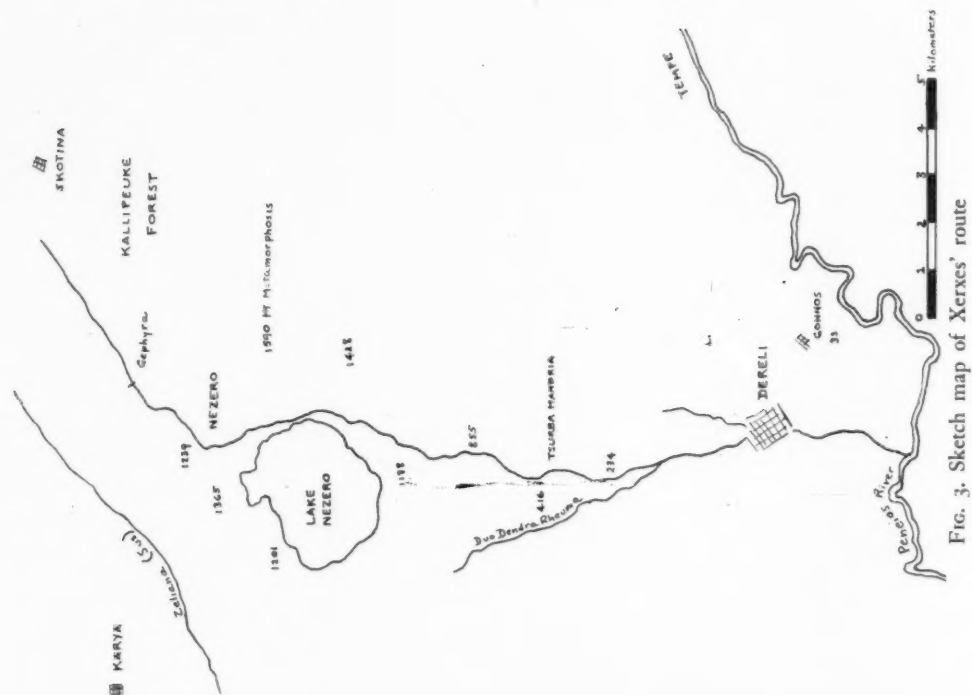


FIG. 3. Sketch map of Xerxes' route



FIG. 2. Wall on west hill of Gonnos



FIG. 4. Panorama of drained Lake of Nezce



FIG. 6. The Nezzero-Skotina path from Mt. Metamorphosis



FIG. 5. Nezzero from Mt. Metamorphosis



FIG. 1. *Aureus* of 19
B.C. enlarged 1:2



FIG. 2. *Aureus* of Trebonianus
Gallus enlarged 1:4

FIGS. 1-2. Rome, Medagliere Capitolino

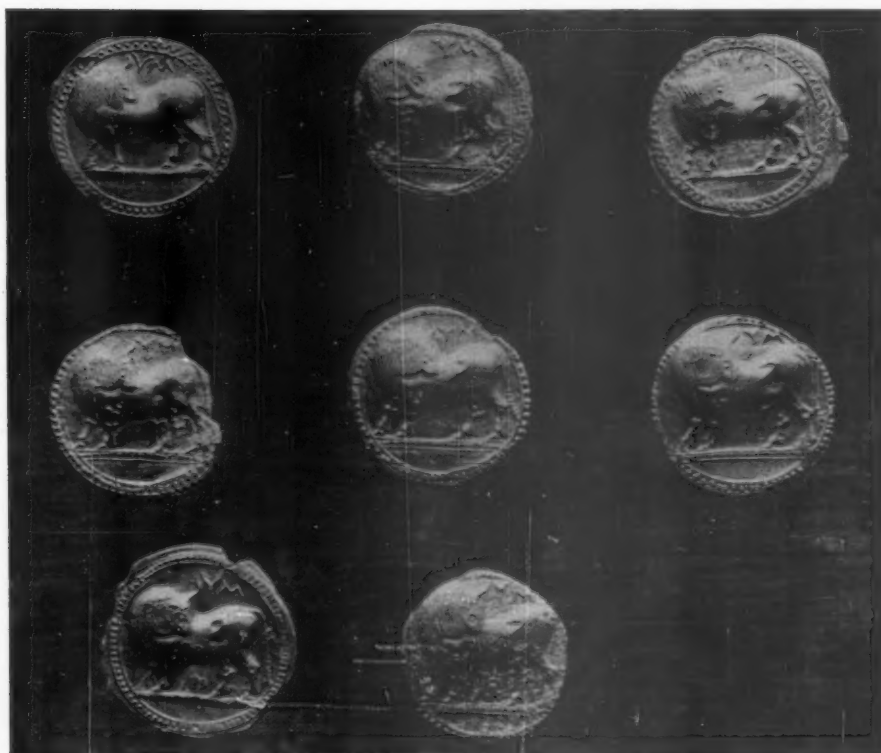


FIG. 5. Sambiase: coin hoard, selection of incuse staters of Sybaris



FIG. 3. Rome, Communal Museums: *trapezophori*



FIG. 6. Taranto: decorated sarcophagus



FIG. 4. Velia: wreathed head (of physician?)



FIG. 9. Lucanian Heraclea: clay statuette of girl with goose



FIG. 10. Alba Fucens: male head



FIG. 7. Monte Sannaco: late Apulian askos showing panther



FIG. 8. Gnathia: Forum and vicinity

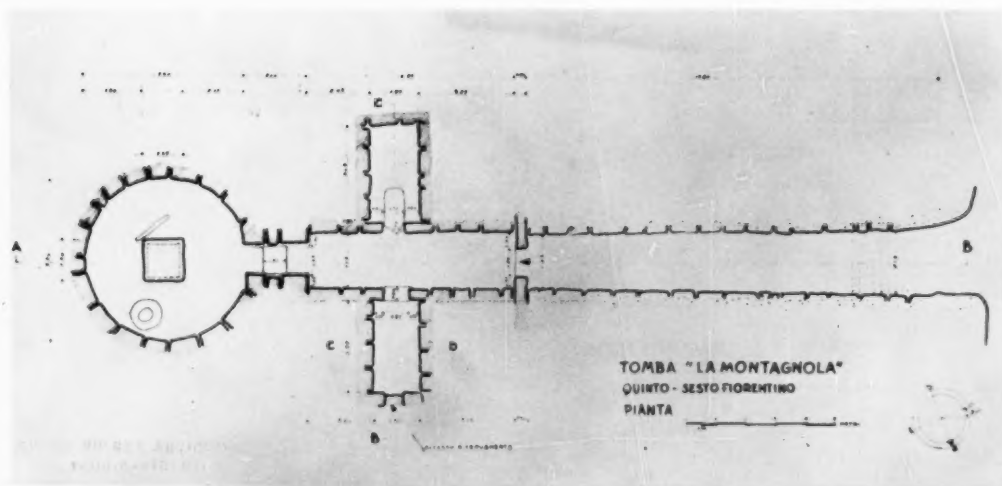


FIG. 11. Plan by F. Chiostri and M. Mannini
FIGS. 11-13. Quinto Fiorentino: "La Montagnola"

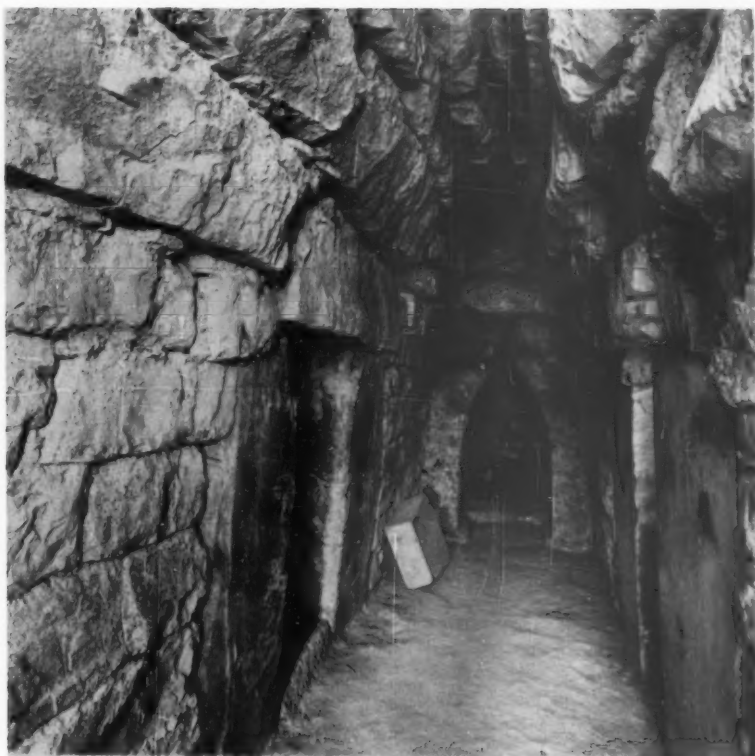


FIG. 12. Corridor looking toward *tholos*



FIG. 13. Roofing of *tholos*



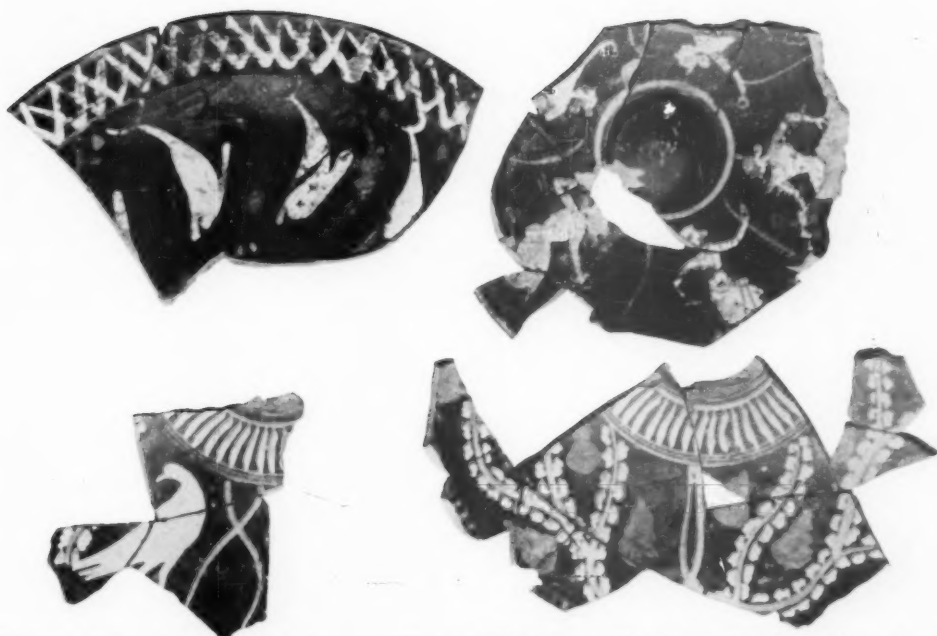
FIG. 15. Archaic standing female figurines



FIG. 17. Figurines of goddess with piglet



FIG. 16. Archaic seated figurines



FIGS. 14-17. Catania: votive deposit

FIG. 14. *Phialai mesomphaloi* overpainted in white and red



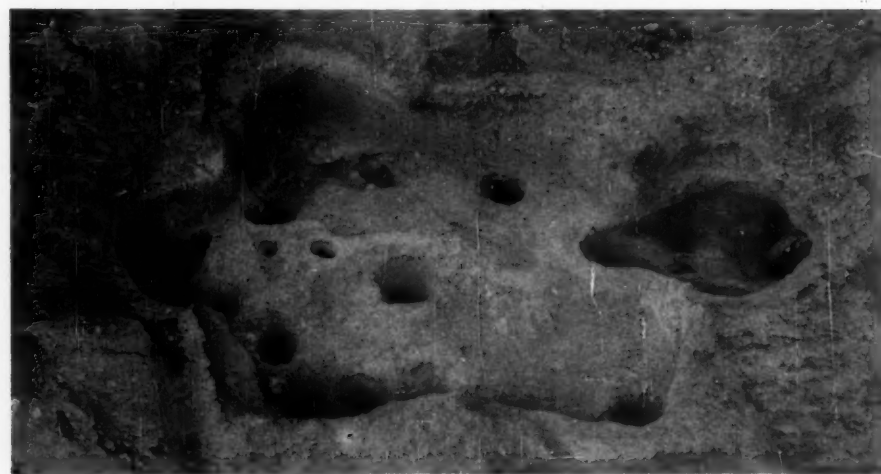
FIG. 18. Megara Hyblaea: Hellenistic sanctuary



FIG. 19. Partial view of hut village



FIG. 20. Air view of large hut, 10.30 m. long



FIGS. 19-21. Manfria: huts of the First Age of Bronze

FIG. 21. Hut with lateral niches



FIG. 2. Cerveteri, Magazzino, no. inv. no.



FIG. 3. Rome, Museo Gregoriano Etrusco Z 112



FIG. 1



FIG. 1. Richter, *Archaic Greek Art* figs. 90-91



FIG. 4. Courtesy of the Berlin Museum



FIG. 2. Cook, *Zeus I*,
p. 95, fig. 68



FIG. 3. Payne and Young, *Archaic Marble Sculpture from the Acropolis*, pl. 18



FIG. 1. The two routes available to Greek fleet, *Odyssey* 3.168-172



FIG. 2. The south central coast of Lesbos



FIG. 3. Sketch of Cape Phokas



FIG. 4. Cape Phokas, approaching by sea from east



FIG. 6. From hillock toward northeast. Corner of "precinct," connecting isthmus, and part of harbor can be seen



FIG. 5. From hillock toward east over plateau of Cape Phokas. Note change in vegetation a few yards in front of wall and earth bank at left



FIG. 7. From in front of S. Phokas chapel toward hillock and southwest. Note bank and terrace below it



FIG. 2



FIG. 1



FIG. 3



FIG. 4



FIG. 5



FIG. 6

Book Reviews, continued

Woodhead, <i>The Study of Greek Inscriptions</i> (W. K. Pritchett)	402
Pritchett, <i>Marathon</i> (W. E. McLeod)	403
Fontenrose, <i>A Study of Delphic Myth and its Origins</i> (S. N. Kramer)	404
Cook, <i>Greek Painted Pottery</i> (J. H. Young)	405
Recueil Charles Dugas (M. C. Roebuck)	405
Bielefeld, <i>Corpus Vasorum Antiquorum</i> , Altenburg, 3 (A. D. Trendall)	406
Villard, <i>Corpus Vasorum Antiquorum</i> , Louvre, 12 (H. R. W. Smith)	407
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Koch, <i>Religio: Studien zu Kult und Glauben der Römer</i> (A. K. Michels)	414
<i>The David Moore Robinson Bequest of Classical Art and Antiquities</i> (D. K. Hill)	415
Schoder, <i>Masterpieces of Greek Art</i> (C. C. Vermeule and D. von Bothmer)	415
Woodbury (ed.), <i>Abstracts of New World Archaeology</i> , I, 1959 (G. F. Ekholm)	417
Wedel, <i>An Introduction to Kansas Archeology</i> (J. D. Jennings)	417
Colton, <i>Black Sand: Prehistory in Northern Arizona</i> (E. K. Reed)	418
Bluhm (ed.), <i>Illinois Archaeology</i> (R. J. Mason)	419

APULIAN RED-FIGURED VASE-PAINTERS OF THE PLAIN STYLE

Alexander Cambitoglou and A. D. Trendall

No. X in the series of monographs on Archaeology and the Fine Arts, sponsored by the Archaeological Institute of America, has been published with the aid of grants from that body and from the Australian Humanities Research Council. The authors have divided Apulian red-figure vases on stylistic grounds into two main groups "Plain" and "Ornate," and the present volume attempts to classify the vases of the "Plain" style from the later fifth century to about the middle of the fourth century B.C. It deals with some fifty vase-painters and about 800 vases, many of which are illustrated for the first time. A volume on the work of Apulian artists of the "Ornate" style will eventually follow. Orders should be addressed to Archaeological Institute of America, 5 Washington Square North, New York 3.

Price \$4.00 to members of the Institute (\$5.35 to non-members).

GENERAL MEETING 1961

The sixty-third General Meeting of the Archaeological Institute of America will be held jointly with the Annual Meeting of the American Philological Association at the Statler Hilton Hotel, Detroit, Michigan, on December 28, 29 and 30, 1961.

Persons who wish to read papers should submit titles and abstracts in *triplicate* (summaries of not more than 200 words, typewritten, double-spaced, ready for publication in *AJA*) not later than October 20, 1961, to the General Secretary for distribution to the Program Committee. Abstracts should specify what projection or other equipment is required. All papers will be limited to 20 minutes, except excavation reports, for which extra time may be allotted if it is specifically requested when the summary is submitted.

EXCHANGE WITH THE U.S.S.R.

The Inter-University Committee on Travel Grants, representing American colleges and universities, is receiving applications from graduate students and scholars for study and research in the Soviet Union for all or part of the academic year 1962-63, as participants in the academic exchange between the United States and the U.S.S.R.

American citizens under forty years of age who are graduate students, post-doctoral researchers, faculty members, or teachers of Russian in secondary schools, are eligible. Persons from all fields of study are encouraged to apply, provided that they can show reasonable professional and scholarly benefit to be derived from study in the Soviet Union, and that they have an adequate knowledge of Russian.

Periods of study and research between one semester and fifteen months can be arranged. Persons wishing to spend a minimum of one academic year in the Soviet Union may be accompanied by their wives, but limitations imposed by the Soviet side prevent taking families. Funds are available to cover all or part of the exchange participant's expenses, depending on the participant's own financial needs and resources.

For the 1962-63 exchange applications must be received no later than December 15, 1961; they may be obtained from Stephen Viederman, Deputy Chairman, Inter-University Committee on Travel Grants, 719 Ballantine Hall, Indiana University, Bloomington, Indiana.

